HS BI

Hochschule Bielefeld

University of Applied Sciences and Arts

Annual Report 2022

Generation Next

Dear Readers,

The 2022 annual report is the first to be published since our university changed its name from “Fachhochschule Bielefeld – Bielefeld University of Applied Sciences” to “Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI).” The recurring theme of this report is “Generation Next.” Each article, in its own way, addresses three questions: What are the defining features of the next generation of students and researchers? What do they need? What are the specific challenges that they are facing? The decision to focus on young people was an easy one for us because we know that HSBI needs to be relevant to tomorrow’s leaders and specialists. Our relevance is evident in the pages of this annual report. In all of the stories from the teaching and research activities across our six faculties, the main characters are representatives of the next generation who are making impressive achievements.

The report also features conversations, all of which involve one or more dean meeting with one or more representatives from the next generation of students and researchers. It is perhaps in these discussions that the differences between today’s young people and the generations that preceded them become particularly clear. It becomes apparent that this generation is in a unique starting position. In part this is due to the unique events of recent years – the Coronavirus pandemic, the war in Ukraine and the increasingly critical climate crisis. Equally significant, however, is the paradigm shift being ushered in by artificial intelligence, big data and the advance of digitalisation, which is in the process of shaking up our social and economic environments.

I can assure you that the articles are well worth reading! Now to move on from the varied content of the publication to its form. Tradition dictates that our annual report, which is our university’s regular interim assessment, has its own independent layout, which is based on the recurring theme and departs from the constraints of the university’s corporate design. This gives the designers freedom and means that every annual report becomes an ambitious and unique piece of art. This year, however, we needed an independent concept that was also oriented towards our corporate design. HSBI is new, after all, and part of the purpose of the report is to communicate about the university’s new name – and the associated changes in the way it presents itself. Both aspects have come together successfully. On the one hand, the concept by our alumnus Sven Lindhorst-Emme and his colleague Lea Hinrichs at the Lindhorst-Emme-Hinrichs design agency (lindhorst-emme-hinrichs.de) picks up on the shapes and the black and white palette of the new HSBI logo. It also uses our new corporate typeface, “Lausanne”, which was designed by the young Swiss typographer Nizar Kazan. On the other hand, it is free and playful with its use of photography. Most of the photos, which focus on young people, were also taken by graduates from our Faculty of Design and Art.

I hope you enjoy flicking through and reading the report!

Yours sincerely,

Prof. Dr. Ingeborg Schramm-Wölk
(President of HSBI)

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Production Credits

↳ The first half of 2022 was still very much marked by the pandemic. More activities were digital and strict hygiene rules were in place. Normality gradually returned during the second half of the year, although the digital communication methods that were learned during the pandemic opened up new opportunities – including this German–Canadian teaching collaboration led by Prof. Dr. Anna-Lena Rademaker from the Faculty of Social Sciences

↳ Which opportunities and risks does the advance of digitalisation bring? On the one hand, digitalisation can help us to tackle challenges in industry or the healthcare sector; on the other hand, it is becoming increasingly difficult to retain our right to self-determination in the area of personal data. The new Institute for Data Science Solutions (IDaS) will contribute to HSBI's research in these areas

↳ When the war broke out in Ukraine, Hamdiya Alhassan fled for her life – along with most of the residents of Kharkiv. Originally from Ghana, she had been studying in Kharkiv for two and a half years. HSBI offered her, together with numerous other refugees from Ukraine, the opportunity to stick to her plan, despite all of the terrible circumstances

↳ With a quiet buzzing noise, a robotic arm draws the famous portrait of Einstein (the one with him sticking his tongue out) with absolute precision. Computer Science student André Kirsch and two other fellow students developed the robot as part of a robotics course at HSBI Minden Campus. The course was taught by Prof. Dr. Matthias König, an expert in embedded software engineering

↳ Annette Brückner's bachelor thesis in Photography and Visual Media, a course offered by the Faculty of Design and Art, is entitled "Fläche und Raum. Über Repetition" (Area and Space. On Repetition). Among other things, the thesis is about using a random procedure in a universal manner, so that it can be applied across all areas of a composition and on any kind of material. This approach results in wonderful images on the floor of the large exhibition room on Lampingstrasse

The Foundations Have Been Laid

Prof. Dr. Ingeborg Schramm-Wölk, President of HSBI, talks about Generation Z, the reasons for renaming the university and the key topics for the future. The Vice Presidents also take stock and share about upcoming activities in their areas of activity.

↳ HSBI President Prof. Dr. Ingeborg Schramm-Wölk at the welcome meeting for first-year students in the winter semester of 2022/23

On 19 April 2023, Fachhochschule Bielefeld (Bielefeld University of Applied Sciences) changed its name. Since then, our name has been: Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI). The process of renaming the "FH" – the abbreviation that we have been using in everyday communication for decades – was based on a decision by our Senate, which was passed with a large majority. The decision was made after several years of discussion, during which the majority gradually – and recently very clearly – shifted towards the stance of those who could no longer identify with the term "Fachhochschule." There was intense debate about the new name. Should we choose a suitable progressive figure with whom to identify? Would it be possible for the name to include a reference to our presence in the OWL region? How much English should be included in the name? Despite these debates, from the outset there was a majority in favour of renaming – within all of the status groups currently represented at the Senate. All of the Executive Board were in favour as well.

HSBI – a new name, a changed profile

Our new name reflects the notable change in the university's work over the years. HSBI as we know it has long since moved on from the school-like nature of the "Fachhochschule." In addition to application-oriented teaching, research and transfer are extremely important to us. Something that has always been an important factor to me is the fact that legislators have long since made linguistic changes that reflect the evolved profile of former "Fachhochschulen." For several years now, the laws in North Rhine-Westphalia (NRW) concerning universities have primarily used the wording "Hochschulen für Angewandte Wissenschaften."

The renaming process also makes a change to the English subheading, which was previously "University of Applied Sciences." The subheading or tagline will now include the additional words "and Arts," to ensure that the name also encompasses the courses in architecture at Minden Campus and the courses offered by the Faculty of Design and Art. This, too, is progress. In the end, it was predominantly the students and teaching staff at the Faculty of Design and Art who influenced the debate about the name, persuading others to vote for an objective name that is purely descriptive. They placed particular emphasis on the advantages of the timeless designation "Hochschule," which conveys the high quality of the study experience.

Our university is not the only one to change its name. Quite the opposite. Since the early 2000s, "Fachhochschule" institutions in Germany have been renaming themselves due to the changed nature of their profiles. "Hochschule für angewandte Wissenschaften" – or, as we have chosen, simply "Hochschule" – has become the established term. On a national level, our university was

one of the last remaining universities of applied sciences to take this step. The step has now been taken and is an expression of our forward-looking outlook, which is evident not only in our teaching, research and transfer but also in our strategic areas of activity: sustainability, internationalisation and digitalisation.

Generation Next, Generation Z

And the word "future" brings me neatly onto the recurring theme and title of this annual report: Generation Next. Back in 2019, a study of young people in Germany conducted by Shell talked about a generation that "speaks up." They were characterised by forceful social and political engagement ("Fridays for future") and the awareness (and confidence) that they had lots of opportunities in this globalised world. Despite the threat of climate change and the lack of generational equity, the study stated that this generation of young people tended to have a positive worldview. It seemed that on the whole, this world view was only slightly tarnished by the staggering deficits that remain in relation to the level of participation in education among people from socially disadvantaged demographics and by an east-west gap in the extent to which people trust the state's democratic institutions. Although these phenomena continued to be identifiable, the previous years' Shell studies had at least observed a slight year-on-year decline in their prominence.

It is probable that the Covid-19 pandemic and the impact of the war in Ukraine will have stress-tested the optimism of the young people described in the Shell study – a group that sociologists and futurologists refer to as "Generation Z." Although there is still very little literature that analyses the impact of these two crises, one thing seems to be certain: the picture that is emerging is of a generation that needs to learn to deal with growing contradictions. On the one hand, opportunities for training and jobs seem to be better than they have for a long time, due to demographic change and skills shortages. On the other hand, the apparently limitless possibilities and the constant change in almost every area of the economy and society can be confusing and indeed frightening. On the one hand, there is a strong focus on the search for meaning and personal happiness, including material happiness – to an extent that was not possible for previous generations. On the other hand, it seems that altruism, sacrifice and working hard for the common good are unavoidable in view of the global climate crisis. It is not uncommon for individuals to feel overwhelmed by this disjointedness. This is also apparent in the interviews between our deans and students. These interviews were conducted for this annual report and in order to inform the way forward for the faculties.

Further development of course offer

The extent to which HSBI inspires current and future students – which is what we want to do! – will depend on our ability to understand this generation and to account for its needs in a suitable way. This is why we are constantly improving our course offer, while keeping a close eye on what is required by employers. We integrate the latest scientific findings and methods and we have a strong focus on application. We are adding digital and hybrid aspects to our teaching, including subject-specific, didactic, curricular and organisational/structural elements. This appeals to Generation Z, who are digital natives. Our courses are characterised by the close integration of applied research and teaching, as well as the interdisciplinary nature of projects. This not only prepares our graduates for the job market but also boosts their personal development. Studying at HSBI imparts interdisciplinary skills for socially relevant topics, such as sustainability, gender equality, diversity and, last but not least, interculturality. We want all students at HSBI to have the opportunity to gain international experience.

HSBI is in a robust position and is embedded in an economically strong region. We have three study locations (Bielefeld, Minden and Gütersloh), more than 10,500 students and a well-balanced mixture of full-time, work-integrated and part-time study programmes – not to forget the certificate programmes and other academic further training courses. We should also be very satisfied with the high number of graduates who complete their studies at HSBI within the standard period of study, which is a real indicator of quality.

It is not possible to sufficiently acknowledge all of the year's study and teaching highlights. So I will just share a few high points here, which will hopefully go some way to demonstrating the spirit of HSBI. Changing the "International Business Management" master's degree programme to an English-only course is a milestone for internationalisation, as is the new option that we have offered all graduates of this course: they can now acquire a dual degree from one of the four partner universities.

The launch of the "Digital Rail Systems" bachelor's degree programme at Rail-Campus OWL in Minden can also be seen as a milestone. The "Intelligent Rail Systems" master's programme will also be offered as a follow-on course. The Land NRW is providing 1.5 million euros of initial funding to enable HSBI, TH OWL, Bielefeld University and Paderborn University to partner together to train the younger generation so that we can have sustainable rail mobility and a futureproof railway system.

I would also like to draw attention to the willingness of the NRW centre for Heart and Diabetes in Bad Oeynhausen and of Klinikum Bielefeld to partner with HSBI in order to create better conditions for the primary qualifying nursing study programme. As is the case with dual study programmes, students will now receive remuneration for the work they perform in clinical settings during the practical part of the programme. This is commendable. That said, what is really needed here is legislation that helps to make studying an attractive option and that helps to tackle the much-lamented nursing crisis.

Financial support is also the specialism of Studienfonds OWL Foundation, which awarded scholarships totalling 1.7 million euros in 2022–23. The fact that 500 students receive scholarships shows that in the OWL region, there is a great emphasis not only on supporting those with the highest potential, but also on the permeability of education pathways – a hallmark of success for this network of higher education and industry partners.

Research – discovering and promoting talent

HSBI has been constantly expanding its research activities in recent years (see also the contribution from Prof. Dr. Anant Patel, below). The decision to group research activities into university-wide and inter-university projects, focus areas for research and development and institutes has proven successful. HSBI is keen to discover and support talented researchers from an early stage. In addition to research-led teaching, another foundational prerequisite for this is the involvement of talented students in research projects. Examples of this are reported in detail at various points in this annual report. Furthermore, we were recently assigned the right to award doctorates through the Graduate School for Applied Research in North Rhine-Westphalia (PK NRW). Representatives from HSBI were heavily involved in bringing about this change, which will give our research activities an additional boost.

"AI – A New Building Block"

Prof. Dr. Michaela Hoke is Vice President for Study and Teaching

"High quality teaching is essential for HSBI. The dedication of the teachers – and of all members of staff who support the processes associated with teaching – have enabled us to implement numerous projects that increase the quality of teaching and promote innovative approaches to teaching and learning. The reaccreditation of system accreditations is nearly completed, some faculties have enacted far-reaching reforms to their study programmes and many teaching staff have successfully submitted proposals for innovative teaching and learning concepts or have implemented these concepts in their own teaching environments.

In 2022, the area of Study and Teaching was again characterised by digitalisation. We poured a great deal of energy into addressing issues relating to digital teaching and learning, so that we could identify relevant goals and development pathways and improve on what we have already achieved. We discussed how much emphasis to place on digital teaching and which scenarios are most suitable for its use. The peer-to-peer strategy advice from the German Forum for Higher Education in the Digital Age (Hochschulforum Digitalisierung) was extremely useful in this respect. In the coming years, the topic of AI will be increasingly important in the area of studying and teaching; it will change the way people work, teach and learn at the university. We will also continue to face the challenge of developing both the content and the structure of our teaching in a way that keeps pace with the latest scientific findings, the changing requirements of vocational settings and wider societal developments."

"Third-Party Funds at All-Time High"

Prof. Dr. Anant Patel is Vice President for Research and Development

"By 2020, we had already exceeded the €10-million income mark for total third-party funds. We are now marching confidently towards a total of 13 million euros! Achievements like these are made possible by the excellent research environment at HSBI, which is constantly being improved. A new institute policy was implemented this year, a sixth institute – the Institute for Data Science Solutions – was founded, the Stifterverband transfer audit was conducted successfully, the funding measures for early stage researchers were developed and we are regional pioneers in the area of research data management.

I want to highlight the "Tag der Forschung" (Research Day). This internal event was particularly important to me in 2022 after a two-year gap due to the Covid-19 pandemic. On 13 September, over 70 professors and academic staff were finally able to meet in person again – or for the first time – and network while discussing defining research topics at HSBI. They were also able to attend workshops, where they gathered new ideas for day-to-day life as researchers and learned about new opportunities for support in the areas of research data management, the Current Research Information System, startups and transfer projects with small and medium-sized enterprises (SMEs).

With the assignment of the right to award doctorates through the Graduate School for Applied Research in North Rhine-Westphalia (NRW) comes the specific need for the creation of structures for doctoral programmes. With it also comes the opportunity to develop an academic environment for doctoral students at HSBI and to increase the visibility of our research. As one of the top universities of applied sciences in NRW when it comes to doctorates, the logical next step for us is to develop a graduate centre as a figurehead for HSBI."

“Systematically Pursuing Our Goals”

Prof. Dr. Ulrich Schäfermeier is Vice President International Affairs and Digitalisation

“The past year was characterised by changes and by course-setting, both in the area of digitalisation and of internationalisation. By implementing agile practices and ambiguity tolerance, each entity within HSBI was able to negotiate the manifold challenges, while also systematically pursuing the strategic goals of the interdisciplinary areas.

I would like to emphasise the university-wide efforts to support refugee students from Ukraine. The students were offered hope in the form of support, language-learning and teaching on an unprecedented scale across Germany. The slogan for the efforts was “Study On, Ukraine!” and I would like to offer my heartfelt thanks to all those who were involved!

Other developments in the implementation of the international strategy included transforming the International Office into an administrative department of its own and setting up the Language Center, planning a Welcome Center, introducing our first study programme that is entirely in English and significantly increasing the programme funds for mobility grants.

The other course-setting moments related to digitalisation. University administration staff have been – and still are – working at full capacity on projects for migrating most of the core systems. These projects are required firstly in order to fulfil our legal requirements as a public sector body and secondly in order to implement the university-wide process management plan.

In the area of Study and Teaching, the German Forum for Higher Education in the Digital Age (Hochschulforum Digitalisierung) helped us to implement a strategy process whereby the digital services and structures that emerged during the Coronavirus pandemic were adapted for the future of university teaching.

These activities, among others, will continue to have a significant impact on the interdisciplinary areas over the coming year. As previously, we need to take an agile approach to dealing with uncertain situations and rapid changes.”

Transfer – improving structures

The more efficiently our findings can be disseminated, the greater the societal value of our research activities. So among the three dimensions of our performance (teaching, research and transfer), transfer is becoming increasingly important – including in the area of funding policy. In response to the findings of the transfer audit performed at our university in 2022 by the consulting initiative “Stifterverband,” HSBI is further developing its profile in this area. A particularly relevant development here is the Innovation Campus for Sustainable Solutions (InCamS@BI), which is receiving 8.8 million euros over five years, starting in 2023, as part of the second round of “Innovative Hochschule” funding (an initiative between Germany’s federal government and the federal states). At this campus, there will be interdisciplinary collaboration in the area of materials research – similar to the collaboration in the area of health and social care at CareTech OWL. There is no doubt that both of these projects improve the profile of our university!

The same applies to our contribution to “Bielefeld Research + Innovation Campus” (BRIC), “Think Tank OWL” and the “it’s OWL” innovation and technology network. All of these activities are transfer machines – a claim that is justifiable because it was made by the team of startup experts at HSBI’s Center for Entrepreneurship (CFE). Furthermore, the Executive Board of HSBI is already working towards the formation of the university’s own transfer centre in the near future. It is to be led by our Director of Transfer Activities, Prof. Dr. Uwe Rössler. The primary goals here are to update the existing transfer strategy, to unify the approach to transfer projects and to utilise synergies.

Research, teaching and transfer are HSBI’s “core business areas.” Without strong management, it would not be possible to pursue our work in these areas – or to achieve our goals in the strategic areas of sustainability, internationalisation and digitalisation. In the area of management, huge efforts have been necessary – and still are – in order to keep pace with the requirements, which have been increasing at a fast pace recently. It would be misguided to think that the university, having managed to successfully navigate the Covid-19 pandemic, is now in calmer waters. For instance, we need to meet the staggering requirements associated with the implementation of NRW’s eGovernment legislation (EGovG NRW) and Germany’s Online Access Act. Our administration is also facing the gargantuan task of modernising our systems. The key words here are document management and CAT. In addition to this, our IT specialists are having to constantly protect the university from criminal hacking attempts.

Let’s build the “University of the Future!”

Functioning digital systems are crucial for universities, but an in-person university such as HSBI also needs enough rooms. In this regard, however, we are

nearly at full capacity. After our faculties were moved from various locations across the city into our main building in Bielefeld, we discovered that when studying, teaching and research all happened in one place, it opened the door to some amazing interdisciplinary activities. Owing to the budget situation of our federal state, we were not given the green light for additional buildings at Campus Nord last year or this year. Despite this fact, we want to keep holding tightly to this idea – rather than ending up scattered again. By adding a building right next to the main building, we have the opportunity to create spaces for collaborative teaching and learning formats that are designed around the principles of sustainability – to build an architecturally exemplary “University of the Future” in Bielefeld!

But we are by no means only focusing on Bielefeld! At the other locations, we are also working hard to create a futureproof university infrastructure that attracts all status groups. At Minden Campus, for example, modernisation work has been taking place for over six years. The work recently reached a milestone moment, when the newly refurbished facilities in the south wing of Building A were made available for us to use. We’re making our campus in Minden an even lovelier place to be! And in Gütersloh, our in-house experts are hard at work trying to ensure that HSBI is able to utilise the repurposing of the Mansergh Barracks site as an opportunity for building a modern campus at a location in Gütersloh.

The goal is to ensure that HSBI remains attractive to the upcoming generation. One strand of this is our high quality research, training and transfer. Another strand is our efforts in the area of sustainability. Yet another strand is our work concerning equality and diversity. In 2022, we adopted the university’s anti-discrimination directive and established a fund for supporting student parents who encountered difficulties due to the Coronavirus crisis. We have supported female teaching staff and tutors and obtained the “family-friendly university” certification for the fourth time.

“New HR Tools and a Participative Sustainability Programme”

Prof. Dr. Natalie Bartholomäus is Vice President Sustainability, People & Culture

“In the area of Human Resource Management, the introduction of ‘Time to Talk’ conversations for reflection and perspective was extremely important in my view. These conversations increase levels of colleague appreciation and facilitate reflection on collaboration between staff and their supervisors. We have introduced a part-time model that uses blocks of time, thus giving the opportunity for all employees to have sabbaticals. We have also reviewed our previous approach to job advertisements, developed a catalogue of benefits to make ourselves more attractive to the labour market and progressed the development of the university’s careers website.

We are also trying new methods of recruitment and have begun a pilot of using active sourcing and executive search. There is currently a growing skills and labour shortage, and a shortage of management personnel. As such, HSBI is responsible for ensuring that it is an attractive employer to potential and existing employees. This calls for strategic considerations, especially in the areas of staff recruitment and retention.

It is attracting new talent and retaining existing talented staff that lays the foundations for future success at HSBI. We will therefore focus on developing a comprehensive employer branding strategy that makes us more attractive as an employer, in conjunction with the Career@BI project and building on what was achieved this year.

In the area of sustainability, I would like to highlight the development of the Sustainability Strategy Roadmap and the finalising of ‘Road I: Vision, Purpose, Mindset’ by adopting HSBI’s ‘Leitbild_kompakt für Nachhaltigkeit’ (Compact Mission for Sustainability).

Other stand-out moments included the successful pilot of the food waste reduction project, ‘Retterboxen,’ in partnership with Restlos e.V., which began at HSBI’s main building and, in partnership with Bielefeld University, was extended across the whole campus; the university-wide “Act2Sustain” launch event for all employees, with the well-known environment expert Dr. Thomas Henningsen; the launch and synchronisation of the process of participation in the sustainability strategy for all students, in partnership with the sustainability unit of the student union (AStA), the Minden Campus Green Office and the student representatives in Gütersloh; the implementation of four work groups (Studying & Teaching, Research & Transfer, Management & Governance, Campus Life) and 18 subteams in the strategy development process for sustainability, as well as the launch of the sustainability web pages: https://www.hsbi.de/nachhaltigkeit.

2023 will therefore be a year of implementation, during which each of the subteams from the four work groups will implement specific projects and measures and will put their part of the strategy into writing. In 2023, we will also be increasing the focus on climate action at HSBI and establishing an additional working group entitled ‘Building Life Cycle.’”

Focusing on prospective students

It is likely that in the future, student numbers in Germany will decline due to demographic changes, so we will need to make a concerted effort to intensify our interaction with prospective students. A great many of our colleagues are already working very effectively in this respect, by investing in relationships with schools. Other examples of this include the ExperiMINT laboratory for school pupils and the "Tag der Bildung" (day of education) event, a joint initiative between HSBI and KlimaWoche (climate week). Over the past year, over 1000 school pupils have participated in these activities. A key to success in this area will be to find where the target prospective students regularly spend time and interact with them there. Which is, of course, at schools. But they also spend their time on social media. And the creative minds in our university communications team have laid very good foundations for addressing prospective students on these channels, by creating HSBI's new corporate design.

"Promoting a Work Culture That Embraces Transformation"

Gehsa Schnier is Vice President for Finance and Personnel Management

"In the last five years, the fast-paced developments in the areas of the university's performance that are parameter-related have stretched us all – including our technical and management support teams – to the limit. And there is no time to catch our breath now, either! We need to tackle the new challenges arising from the global political and economic situation. We also need to adapt to the intensifying competition for tomorrow's prospective students. With all this in mind, promoting and maintaining a work culture that embraces transformation is more important than ever.

The transformation process, whereby every process at the university is being reviewed and optimised, is in full swing. This process is primarily focusing on our management and professional conduct, while also taking into account the experience gained from successfully tackling the Covid-19 crisis. What is called for is a combination of remote and in-person working, with a modern, sustainable use of space. This is set out in writing in a works agreement. This works agreement also remains subject to an ongoing review process. Organisational development should not take place without at the same time considering diversity. A diversity audit is currently underway and is providing numerous stimuli in this respect. Our university has so many attributes that are already extremely attractive, so our focus in the area of staff recruitment and retention is on increasing the awareness of and communicating these attributes.

We need to utilise the opportunities offered by digitalisation in order to offer transparent processes that are legally sound and technologically safe, and that are perceived as being better and more convenient – by users and operators alike. On our journey to this destination, technical implementation should be the final piece of the puzzle, rather than the foremost consideration. The in-depth analysis and development of our processes – especially of those that span across numerous organisational areas and areas of work – is already well underway and heading in the right direction; we want to join in with and continue this work. There has been much implementation and development over the last year and milestones have been reached on the way towards final goals. We are, however, still lacking higher level connectivity to some extent."

Hochschule Bielefeld

↳ Graduates of Bielefeld School of Business's "International Studies in Management" double degree course travelled to HSBI from all over the world to attend the alumni event. Dr. Wiebke Esdar, member of Germany's federal parliament, gave a talk about the importance of International Studies for solving global problems

Do Young Engineers Need to Save the World?

Studying at HSBI's Faculty of Engineering and Mathematics is an exciting and practical challenge that is highly relevant to wider society. There is agreement on this point when Wiebke Siewert, an undergraduate on the Industrial Engineering and Management study programme, and Prof. Dr. Rolf Naumann, the faculty's dean, discuss the faculty's opportunities and shortcomings.

↳ Student Wiebke Siewert and Rolf Naumann, dean of the Faculty of Engineering and Mathematics, met in the faculty's machine shop in HSBI's main building to discuss the topic of this year's annual report: "Next Generation." They discussed the social importance of the work of engineers while standing in front of a modular twin-screw extruder, a machine that can be used, among other uses, to develop new types of materials and (co)formulations in the areas of engineering plastics, bioplastics and polymer composites

Prof. Dr. Naumann, what would you say were the highlights from the faculty in 2022?

Prof. Dr. Rolf Naumann: A clear highlight for me personally is the new "Digital Rail Systems" bachelor's degree programme. As the academic programme director, I had the privilege of contributing significantly to this Executive Board project, which will enrich our teaching. The special thing about this study programme – as well as the cooperation with TH OWL, Bielefeld University and Paderborn University – is the unique venue of study: RailCampus OWL in Minden. The DA VINCI project taking residence at Bielefeld Campus is another large-scale enrichment. Students can work on their exhibits and projects in the spacious, well-equipped workshop here in Bielefeld, whereas they were previously having to make the time-consuming journey to Stadtholz. From the area of research, I would like to draw attention to CareTech OWL, which is an example of our interdisciplinary research partnerships. The concept for this centre for health, social affairs and technology is to pool knowledge from the care sector with medical, therapeutic, technological and practical expertise. All players are brought together at one location, which enables them to tackle health issues collaboratively. By involving students from the disciplines of healthcare, social sciences and engineering, the centre cultivates an innovative transfer culture. In the future, there will be an increasing focus on interdisciplinary study programmes and projects, so there will be more highlights like these.

Ms Siewert, what do you think today's universities need to do in order to ensure that current and prospective students feel confident that they are in the right place?

Wiebke Siewert: I am convinced that practical components are extremely important. Whoever I speak to in my circle of friends, I always hear that they were irritated by their secondary education because they hardly ever knew why they were having to learn the material being taught. It was often completely unclear how the knowledge being learned would be applicable on the job in later life. And they found this demotivating. I know of course that school is about laying the general foundations. But when you get to university, the teaching content should make specific references to the reality of working life. Here at HSBI, students are already in quite a good position because of the closely interlinked relationship between research and teaching. There are also lots of opportunities for collaborating with companies for project work and theses. But I'm sure more could be done in future. It would actually be possible to design some study programmes to be completely focused on professional practice from the first day to the last. I also think that addressing current global and economic events is an aspect that should be incorporated into the teaching much more prominently. Another thing is that although we are a university of applied sciences, time and time again I have had conversations with fellow

↳ Dean Rolf Naumann and student Wiebke Siewert are pictured here in front of an integrating sphere, which is used for the exact measurement of light rays. They agree that engineers have the task of finding solutions for societal problems

students where it becomes clear that one or two of the older professors are teaching content that is no longer up to date. Things change quickly, especially in the field of engineering, and we expect our university teaching to keep pace with the change.

Following the completion of the university's renaming process in the spring, do you have any hopes associated with the new name, "Hochschule Bielefeld – University of Applied Sciences and Arts"?

Wiebke Siewert: I do think it's quite good that the name now denotes the presence of the arts in our university life. Apart from that, I am quite neutral about the renaming. After all, when it comes to universities, it is the contents that matter – not the packaging!

Rolf Naumann: In 2015, we moved into a modern building and expanded our course offer by adding contemporary, interdisciplinary and job-oriented study programmes. The implementation of academic reform is another key topic in the faculty. I think that modernising the name of our university – while also making it more international – is a logical next step. I am pleased that we are staying in motion – in the interest of our students!

Climate change is presenting us with a huge challenge. A melodramatic question, perhaps: Are engineers now the only ones who can save the world?

Rolf Naumann: People have always had great expectations of engineers. And indeed, it is our job to find solutions to societal problems. Our goal is to advance humanity, to make life better. I am convinced that we can develop these solutions together. But that only works when everything meshes together well. In this respect, funding, investment and political prerequisites play just as big a role as the actual research outcomes. One example is the electric VW Polo car, which was developed in our faculty 30 years ago and has now been given to Bielefeld's Historical Museum. Back then, the political establishment was not yet willing to pay money for this accomplishment. The situation is similar today – there are already lots of solutions sitting in drawers. Broad-based, cross-societal collaboration is what is needed in order to achieve powerful synergies. The university system particularly benefits from communication with and inspiration from people who think differently. We are constantly looking for application-oriented solutions that we can send out into society via our students.

> "We need to enter into a truly circular economy, with none of this tokenistic downcycling."
>
> Wiebke Siewert, fifth semester student, BA Industrial Engineering and Management

Setting this expectation is a way we can contribute to improving societal wellbeing. In this process, we should always be asking ourselves questions as well. After all, the people who present

technological solutions, as engineers have been doing for over 200 years, are also responsible for their accomplishments. Since technology is a cause of climate change in many respects, the inventors of these technologies are also jointly responsible. Nevertheless, my observation is that the next generation is accepting the challenge associated with this.

Wiebke Siewert: That rings true with the attitude I see in the majority of my fellow students. Simply preaching about sacrifice and about leading an environmentally friendly lifestyle will not be enough to reduce the anthropogenic share of global warming to zero. Technological solutions are definitely needed. We need to overhaul the whole system! Yes, of course we also need to ask ourselves what we really need and don't need in terms of products and standard of living. But the main thing we need is to enter into a truly circular economy, with none of this tokenistic downcycling that often still seems to be deemed acceptable. In any case, I want to make a difference in my future working life. I want to work at a company that makes products that don't overexploit our planet.

So engineers are in demand more than ever. How can that be reconciled with the fact that it is difficult to find new talent in the STEM sphere, and the fact that women are so grossly underrepresented in this field?

Wiebke Siewert: In terms of the low proportion of women, I am reminded of a study that I once read about. It found that young men often overestimate themselves, whereas young women often underestimate themselves. This must play a role here because rightly or wrongly, engineering is classed as one of the particularly difficult subjects. In my day-to-day life as a student at HSBI, it makes no difference to me whether I am interacting with men or women. That said, I do think it is a shame that there are so few female professors. Positive role models are perhaps the most effective solution to the shortfall in the next generation of engineers.

Rolf Naumann: I completely agree. The next generation wants to change things, it sees the world with different eyes. Our task as university teachers is to reinvent ourselves and make the necessary adaptations to the time-honoured customs of engineering. Personally, my feeling is that we are heading in the right direction in this respect. But as a society, we need to intervene even earlier to get the next generation excited about STEM subjects. The concept of technology is often hard to grasp in the context of school education. Wiebke Siewert emphasised this earlier on, when she made reference to the lack of practical orientation in schools. Many prospective students have no idea where an engineering study programme could actually take them – and I will admit that these programmes are not exactly easy. Other professions portray a clearly defined image. At HSBI, we start as early as possible. For example, our school lab helps to get young people excited about technology for the first time. I am convinced that if we remain open and pursue relationships with schools with even more energy, we will be heading in the right direction in terms of preparing young people to face the challenges that await them.

Faculty of Engineering and Mathematics

The Faculty of Engineering and Mathematics has more than 2,900 students and offers 23 study programmes at bachelor's and master's level. The courses offered in the field of STEM (science, technology, engineering and mathematics) combine a wide range of subjects such as electrical engineering, information technology, mechanical engineering, mechatronics, industrial engineering, applied mathematics or biotechnology and instrumentation engineering. In addition to traditional full-time study programmes, there are also part-time, collaborative and work-integrated study models. As well as the locations at Bielefeld Campus, the faculty also has locations at Gütersloh Campus and a venue of study at RailCampus OWL in Minden.

Personal-ised Dialysis with "Renephro" Startup

An abnormal heart rhythm is one of the most common and most dangerous side effects of dialysis. In the hope of minimising this danger, a student startup is pursuing the innovative idea of using software to adjust the dialysis fluid according to the patient's blood values. This maintains the patient's electrolyte levels and regulates the heart rhythm – a quantum leap for the treatment of kidney disease, using fluids that are already available on the market.

↳ It's all about the mixture. When the kidneys stop working, dialysis is vital – and the startup "Renephro" is optimising this technology

A few thin plastic tubes with different coloured fluids running through them. The fluid is pushed along by small pumps, which are controlled by software to ensure that the various liquids combine to make a unique, new mixture. Although the simulation is quite unspectacular, that makes the idea behind it all the more spectacular. "We want to create a personalised dialysis fluid that can be modified to be a perfect match for the patient," Marvin Lohse explains. "This personalisation enables us to significantly reduce the risk of a patient experiencing serious side effects from dialysis, which isn't actually that rare."

Dialysis is often the only life-saving treatment

Lohse is a student on the Optimisation and Simulation master's programme at the HSBI's Faculty of Engineering and Mathematics. In order to make personalised dialysis a reality, he joined forces with his friends Frederic Palesch and Franziska Löwandowski and launched the Renephro research project. Their aim for the project is to raise the bar for the quality of dialysis and thus make a lasting, positive impact on the patients' quality of life. Indeed, despite the fact that dialysis is often the only life-saving treatment available for chronic kidney disease, it is also associated with substantial limitations – and sometimes also dangers – for sufferers.

Patients with severe kidney disease generally need to undergo treatment three times a week for four to five hours. During these appointments, they are attached to an "artificial kidney" – the dialysis machine. This machine performs the function of the kidneys, by filtering the waste products from metabolic processes out of the blood, i.e. by cleaning the blood. Time and again, however, undesirable and sometimes dangerous side effects develop during and between treatment sessions. Abnormal heart rhythms can be especially dangerous.

Standardised dialysis often causes abnormal heart rhythms

Lohse became aware of this danger while studying Mechanical Engineering. At the organisation where he did his work placement during his studies, he learned that abnormal heart rhythms can be one of the side effects of using standardised dialysis fluid. The key ingredients in the fluid are potassium and calcium, which are present at a lower concentration than is found in the patient's blood. This enables the artificial kidney to absorb the excess potassium and calcium from the blood across a thin membrane.

A healthy kidney adapts the extent of its filtering precisely, based on the makeup of the blood at the time. By contrast, artificial kidneys essentially follow a cookie cutter approach. "Yet every patient is different," states Lohse, "and will also attend dialysis sessions with different blood values each time." And that is precisely the problem. "If there is too great a difference between the concentration of potassium and calcium in the blood versus the dialysis fluid, this can result in electrolyte imbalance and there is a danger that abnormal heart rhythms can occur."

↳ The engineering and economic expertise of the Renephro team (Franziska Löwandowski, Frederic Palesch and Marvin Lohse) puts it in a strong position

Using software to personalise treatment

An idea started to incubate in Lohse – and in Matthias Wesseler, a former colleague at the company he was based at for his work-integrated degree. If the potassium and calcium of the dialysis fluid were to be fine-tuned to each individual patient, it would be possible to significantly reduce this danger. "Medical research is also calling for dialysis to be personalised," Lohse admits. Personalisation is already taking place to some extent, with around 50 different dialysis fluids now approved and on the market. Each one has a different makeup, so these fluids can at least get closer to being a good match for the patient's blood values. But according to Lohse, dialysis centres tend to only use a few in practice. "Any other approach would be too logistically complex and expensive," he explains. Which is why Lohse developed an innovative approach that only requires four standardised drugs, which are already approved for use. "If you take the two dialysis fluids with the minimum and maximum concentration, both for calcium and for potassium, you can mix almost any combination and thus meet the needs of the individual patient," he adds.

The real show-stopping feature is that the mixture can even be adapted during the treatment session! Currently, one fluid is used throughout the whole session, with constant concentration levels passing through the dialysis machine. "But dialysis results in the blood values changing over the course of the treatment session," explains Lohse. "Our software-controlled solution enables us to respond to this and provide an optimised fluid mixture throughout the entire procedure. So we further reduce the risk!"

↦ Information

Renephro
https://renephro.com/

Study programmes
www.hsbi.de/studiengaenge/optimierung-simulation-master

www.hsbi.de/studiengaenge/biomechatronik-master

Center for Entrepreneurship
www.hsbi.de/forschung/cfe

Mechanical engineering and biomechatronics working hand in hand

The student sought expert backing from a former colleague, and found his friend Frederic Palesch to be a dedicated fellow pioneer. After his work-integrated bachelor's degree in Mechanical Engineering, Palesch went on to study on the master's programme in BioMechatronics at HSBI and Bielefeld University. He was impressed by the idea from the outset. "The benefits are obvious," he says. "Patient quality of life improves due to the reduction of side effects; staff time is saved and the medical establishments benefit both practically and financially from the simplified logistics."

After the duo had their first advice session at the HSBI's Center for Entrepreneurship (CFE), which further encouraged them to pursue their idea, they decided to start their own business. At that moment, Renephro was born. "The name is a play on words, combining 'ren', the Latin word for kidney, with 'nephrology,' which is the field of renal medicine. And of course 'Re' also represents renewal," explains Franziska Löwandowski. As a graduate of HSBI's work-integrated bachelor's programme in Business Administration, she rounds off the team with her academic background in economics. She is working for the startup alongside her master's programme in Finance and Controlling. "Although I am responsible for the economic viability of our product," Löwandowski explains, "our first and foremost focus is on the patients, whose quality of life we want to improve."

CFE start up grant and ERDF funding

A start up grant provided the business with seed capital and the CFE gave the advice that was needed. "In particular, the CFE's incubator programme was hugely helpful at the beginning, with its comprehensive and interdisciplinary information about starting a business," Frederic Palesch recalls. "And more broadly, every aspect of being a founder is actually covered by an appropriate event, talk or coaching session." Support from the CFE was especially helpful when looking for suitable funding programmes and putting together applications. "We would never have found them or successfully applied on our own," says Palesch.

Marvin Lohse's Renephro idea has grown significantly since then. The startup is being funded by the European Regional Development Fund (ERDF) for North Rhine-Westphalia and the prototype has been proven to work in numerous test procedures. HSBI is also providing expert support in the form of Prof. Dr. Dirk Lütkemeyer from the Faculty of Engineering and Mathematics. He is responsible for the subject area of "Characterisation of Biotechnological Products" at the faculty and is supervising the team in respect to laboratory work and substantive questions. The team can say with certainty: "Without this support, we would not be where we are now."

Becoming a Data Architect: A Work-Integrated Route

From theory into practice – and back again. For bachelor's student Michael Epp, the appeal of the work-integrated "Digital Technologies" study programme at Gütersloh Campus is its variety. His employer, Harting, values the study programme as an excellent source of new talent.

↳ Variety, variety, variety: In his studies and at work, Michael Epp is constantly exposed to new digital technologies and tasks. He alternates between work terms and academic terms, each lasting three months. It is precisely this mixture that he likes about his work-integrated course

How do you find the perfect study programme? Some might click through an online questionnaire to help them choose a study and career path. Others might scroll through course outlines and university websites. By contrast, Michael Epp found his dream degree programme after completing an apprenticeship. He was already working in the field and was employed at the technology firm Harting – a leading global supplier of electronic connectors with a huge variety of types, sizes and applications. Harting is based in Espelkamp, near Minden in North Rhine-Westphalia.

Michael Epp soon realised that his job needed to be varied because he quickly becomes bored by routine. He also knew that he wanted to work predominantly with data, software and machines. This vibrant mixture is exactly what he is experiencing during his work-integrated bachelor's degree in "Digital Technologies" at HSBI.

From the university to the workplace – and back again

Michael Epp is in his third semester of study at Gütersloh Campus. He is working for Harting at the same time. This combination is made possible by HSBI's work-integrated study model, which features an alternating pattern of work terms at a company (11 weeks) and academic terms at the university (12 weeks).

Creating order from mountains of data

At its core, the "Digital Technologies" study programme is about capturing and processing data. Students work with very large quantities of data ("big data"). The datasets are often unstructured. They might be Tweets, photos, customer shopping histories, login files on web servers or error notifications from machines. Initially, the volumes of data are of no use to anyone. To be useful, they need to be processed, stored in databases, ordered, analysed and evaluated. This involves the use of wide-ranging technologies and methods, ranging from databases and algorithms through to various useful programming languages and artificial intelligence. Students become very familiar with these approaches and learn how to apply them.

Data analysis prevents production outages

The technology firm Harting makes industrial connectors – everything from large train connectors, which pass electricity, data and signals between the individual carriages of Deutsche Bahn trains so that they become one large unit, through to tiny, flexible circuit board connectors, which are used in smartphones to connect the modules to the circuit boards. Epp works in the "Industrial Internet of Things, Solutions & Services" (IIoT) division. "We mainly focus on obtaining and processing data from the production facilities," the HSBI student explains. "We do this to try and make sure that we always know how our machines are doing. This enables us to intervene before a machine fails due to wear and tear or a small defect." The buzzword here is "predictive maintenance", which is all about avoiding unplanned machine downtime, reducing repair costs and improving the flow, efficiency and speed of processes.

Understanding huge quantities of data

Seeing the rows and rows of machines at Harting's Espelkamp site – around 200 machines in total – makes it easier to appreciate the importance of Epp's work and study activities.

↳ “In a few years, we will probably be able to have quite normal conversations with AI systems in day-to-day life. A bit like in the ‘Iron Man’ film.” – Michael Epp looks ahead to our digital future

The machines, which have monitors and gripper arms, work beside a conveyor belt to produce the individual components that are used in the industrial connectors. Each of the machines, some which are fully automated, works and communicates in a different way. This means that huge quantities of data are sent to the IIoT division each day.

Theory dovetails with practice

Currently, Epp’s role in the process is to gather data. “I spend almost all of my time working out how we can extract the relevant data from our machines as efficiently as possible,” he explains. “I convert the datasets into certain programming languages and send them to my colleagues, the ‘data scientists’.” The data scientists then analyse the data, identify patterns and obtain insights for wider production processes. “That is a job that I could be doing after I finish my studies,” says Epp.

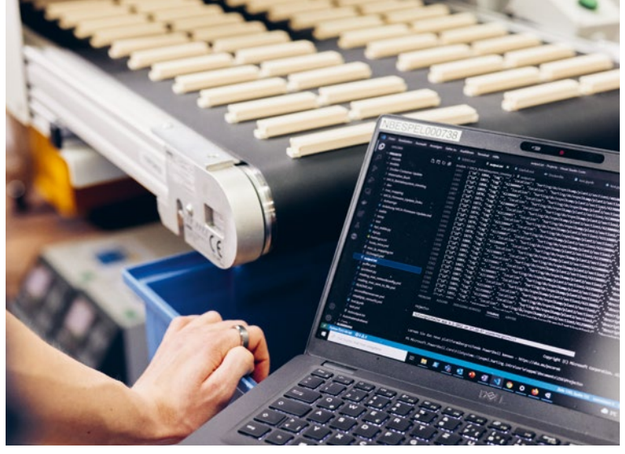
The course content in the academic terms at HSBI overlaps significantly with the projects during the work terms. This is the result of intensive collaboration between the responsible representatives at Harting and the university. Both parties benefit from the partnership. Sometimes Michael Epp even gives his colleagues a concise recap of his seminar content, so that they can benefit from it, too.

During the academic terms, students work through most of the course content independently. They then attend weekly meetings with the professors for the relevant module, where they complete exercises and have supervised self-study time. There are no conventional lectures. “When I have my academic terms at HSBI, I spend three to four hours each day in predetermined classes. For the rest of the time, I study in a learning group or have periods of self-study. So this kind of study programme requires a certain level of self-discipline,” states Epp. Students also start preparing for some of the topics in the upcoming academic term while they are still in a work term.

Earning while learning

He doesn’t view the combination of working and studying as a double burden. In fact, he describes it as being easier: “In my line of work it is totally normal to be constantly learning about something new. And to be given tasks where initially, you don’t quite know how to tackle them. But in my degree course, theory and practice are dovetailed so well that lots of the things I’ve already learned in the academic term at HSBI then also come up in my work at the company. So I don’t have to acquire the knowledge while I’m in the middle of a real project. Many of the topics covered on my course do line up pretty perfectly with the projects in my work terms. And of course it doesn’t hurt to be earning while studying!”

In one work term, an area that Epp was working on was video streaming. He was starting with files from cameras that were



↳ Innumerable quantities of data, most of which is unstructured, are sent to the IIoT division each day. Electricity, compressed air and temperature are constantly monitored for each machine, including this one, which manufactures aluminium housing for industrial connectors

monitoring injection-moulded parts for quality defects and transcribing them on a Harting server, in real time. “In my next work term, I will probably do something completely different again,” Epp explains. “This variety is precisely what I love about my job and my study programme.”

“The perfect path”

The route that the 24-year-old took to HSBI and Harting was not a direct one. In hindsight, however, it has proven to be the perfect path. While Epp was studying electrical engineering at the University of Bremen, he quickly realised that a “normal” degree course was too theoretical for him. He completed an apprenticeship at Harting to become an electronics technician in the field of automation technology. He also worked in the company’s IIoT division for one year.

“After that year, I was keen to expand my horizons while at the same time shifting my focus more towards software from hardware,” the student recalls. “I was looking for a way to stay working in this team while undergoing further training. With work-integrated studies, I was able to achieve this exact goal. The path I have taken is actually perfect for my area of work. First, an apprenticeship in the field of technology or computing; then a work-integrated degree course where you can already start gaining on-the-job experience.”

Good for the university and the company

“My advice to anyone would be to not allow yourself to be scared away by modules in maths or physics,” says Epp. “You don’t need to have taken specialist maths or physics courses at school in order to manage these modules. And it also doesn’t matter if, like me, it’s been a few years since you finished secondary school.” Detlef Sieverdingbeck, Central Division Manager for Corporate Communication & Branding at Harting Technology Group, is in agreement. “We offer work-integrated and practice-integrated study programmes for direct entry and as a way of training skilled workers. But we also support our employees by offering them targeted training and development opportunities. Every year, we recruit new young people who are interested in degrees and apprenticeships.”

Gütersloh Campus

Gütersloh Campus has been a legally established HSBI location since 2021. There are currently nearly 600 students based at the campus and the courses offered there include the five work-integrated bachelor’s degree programmes: Digital Logistics, Digital Technologies, Mechatronics/Automation, Product-Service Engineering and Industrial Engineering and Management. The Industrial Engineering and Management, Applied Automation and Digital Technologies part-time master’s courses are also based there, along with the bachelor’s degree programme in Business Administration. The research master’s degree in Data Science is also offered at this campus.

Hibiscus in a Dye-Sensitised Solar Cell

↳ Hibiscus flowers provide the dye for the solar cells, graphite pencil residue works as a catalyst and titanium dioxide acts as the semiconductor

Researchers at the Institute for Technical Energy Systems (ITES) are working to develop a solar cell that is non-toxic and reusable. Hibiscus flowers provide the dye, graphite pencil residue works as a catalyst and titanium dioxide acts as the semiconductor. All of the materials can be reused or recycled without any problems – a move away from the throwaway culture and towards a circular economy!

We are feeling the impact of climate change more than ever before, so the need for sustainable and renewable energy sources is becoming ever greater. The key technologies in this respect are wind and solar power. But a lot of energy is consumed during the construction of wind and photovoltaic power plants. The materials that are used are also difficult or impossible to recycle.

Non-toxic, reusable dye-sensitised solar cells

Generating energy in a way that truly does no harm should ideally not involve the use of any poisonous substances. All of the materials should be easy to reuse without leaving any harmful traces, in keeping with the vision of a circular economy. This is why researchers at the ITES are seeking to develop a “circular” dye-sensitised solar cell. To be circular means more than simply being recyclable. All components should be reusable in their current state. It should not be necessary to melt them down first, as is the case with glass, for example. Although dye-sensitised solar cells are far less stable and less effective than typical silicon-based solar cells, the researchers at HSBI still think that they offer great potential as a way of supplementing the green energy mix.

How dye-sensitised solar cells work

Dye-sensitised solar cells recreate the photoelectric effect by transforming light into electrical energy. The dye absorbs light, which causes an electron to be “ejected” and results in an electric current forming. The cells consist of two conductive electrodes, at least one of which must be transparent, in order to allow light to enter the cell. Glass is usually used as the base material for this. The front electrode, which is exposed to the sunlight, is coated with a semiconductor – typically titanium dioxide. The dye is then deposited onto it. “In our project, we use plant-based dyes and our semiconductor is titanium dioxide,” explains Fabian Schoden, the research associate who is responsible for this project at HSBI. He is writing his PhD about this topic and is part of a multidisciplinary team consisting of professors, academic staff and students. “The dye molecules absorb the light, which stimulates the electrons in the dye. They essentially ‘travel’ to the conduction band in the semiconductor,” Fabian Schoden continues. “The semiconductor and the front electrode enable the electrons to end up in an external current, where they can emit the energy.” A layer of platinum or graphite acting as a catalyst helps the electrons to re-enter the solar cell. When the electrons return to the dye, they complete the electrical circuit. This means that the dye can once again absorb light and convert it into electrical energy.

↳ The HSBI research team is keen to learn from the glass recycling business Reiling and build dye-sensitised solar cells that are easier to recycle

A diverse range of potential uses

Since dye-sensitised solar cells are less efficient and have a shorter lifespan, scientists do not believe that they will replace typical photovoltaic systems. “The big advantage, however, is that they are much easier to manufacture,” Fabian Schoden explains. “This opens up the possibility of manufacturing them in developing countries and using them locally, for example.” In addition to this potential application, dye-sensitised solar cells can also generate electricity at twilight or in indoor areas lit by electric lighting. As such, they could also be built into everyday objects such as smartphones or laptops as a way of charging them. It is also possible to create transparent dye-sensitised solar cells, which could be integrated into the windows of buildings or vehicles, thus providing an invisible way of producing green energy.

Circular economy

The researchers working with Fabian Schoden on this HSBI project have set themselves clear goals. They want all of the materials that are being used in the new dye-sensitised solar cells to be plentiful and non-toxic. This is because conventional dye-sensitised solar cell designs often use toxic materials – for example, toxic dyes that are intended to increase efficiency. But these materials make it harder to recycle the solar cells. “Although using toxic materials such as ruthenium or cobalt increases efficiency, we would like all materials to be cyclical – it should be easy to reuse or recycle them. We also want to use resources that are plentiful, rather than scarce. We are seeking to move away from a throwaway culture and towards a circular economy,” explains project lead Fabian Schoden. “That’s why our cells only use non-toxic components, such as plant-based dyes. Hibiscus flowers, to be precise,” says Schoden. “The semiconductor that we use, titanium dioxide, is the ingredient CI 77891 that is found in regular toothpaste. It is what makes our toothpaste so nice and white. So it is theoretically possible to build your own cell at home quite easily. You would need toothpaste, fruit tea, an oven and two conductive glass panels, which you can actually buy quite easily online.”

↦ Information

ITES
www.hsbi.de/ium/ites

Textile technologies working group
www.hsbi.de/tex/en

There is another reason why Schoden thinks that dye-sensitised solar cells are the perfect product. “Although these cells aren’t a mass-produced product, there is potential for that to happen.” The researcher is convinced that the team’s work on making a version that is truly clean and sustainable could make “a big contribution to supplying energy in the future.”

The road to a new kind of solar cell

“Our development process starts by thinking about the end, rather than designing for a relatively short operating life,” says Schoden. He started by undertaking a literature review. “I discovered that there were actually a great number of publications about dye-sensitised solar cells. In March 2021, I found more than 24,000. But most of them focused on technical aspects. Only 35 of the publications mentioned the term ‘sustainability’. My theory is therefore that sustainability still doesn’t seem to play a particularly big role when it comes to research.”

His next step was to gain an overview of which approaches could be found in the academic literature in terms of using recycled materials for dye-sensitised solar cells. He learned that carbon from batteries, for example, proved to be a very efficient material, but that the recycling process was too expensive. Using graphite pencil residue was a common approach but it yields low efficiency values. The option of using displays from old mobile phones and computer screens had also been explored. “We landed at the assumption that there was a need for further research in relation to the interplay of recycled materials. In this respect, we needed to keep profitability in mind,” explains Prof. Dr. Hildegard Manz-Schumacher, who monitors the economic viability of the project. “After all, if recycling a material is more expensive than the raw material itself, the recycled version will not have a future,” she concludes.

Lifespan – a sticking point

Another important aspect is to extend the lifespan of dye-sensitised solar cells. “The cell often stops functioning when the electrolyte dries out,” says Schoden. “To avoid this, it is possible to encapsulate the cell or use a gel electrolyte. Instead of using petroleum-based electrolytes, electrolytes based on biopolymers can be used. On the other hand, encapsulation adds in another raw material, which makes recycling more difficult.” Another possibility would be to have a cell that requires the fluid to be regularly topped up, either manually or by rainfall.

Schoden is working on finding a way to negotiate this weak point of dye-sensitised solar cells. “That aspect is not yet ready for publication,” the researcher says.

Learning from glass recycling

Schoden’s research led him to a company called Reiling, which has been professionally recycling PV modules for a long time. The firm in Marienfeld, near Gütersloh, has been constantly researching ways to optimise the process. “They know what goes wrong and why these modules are so hard to recycle,” explains Schoden. “We want to learn from that.”

“With conventional silicon-based photovoltaic modules, the bonding of materials is the main problem,” explains Industrial Engineer Malte Fislake, Product Manager at Reiling. “The aluminium frame is easy to separate and recycle, but the glass is bonded to the film and silicon. It is extremely difficult to separate all of these elements and currently, there is no industrial-scale process that can reclaim the most valuable glass from the module.” At the moment, the end product is predominantly used in the construction and insulation sectors, for alternative glass applications such as mineral wool. “Despite the fact that the glass used in PV modules is of a very high quality. It has low levels of iron oxides and allows plenty of light through, which is good if you are wanting to turn light into electricity,” states Fislake. Approaches to improving the recyclability of conventional PV modules would include using alternative construction methods or alternative materials, so that the materials are easier to separate from each other.

Fabian Schoden is keen to learn from Reiling’s experience and build dye-sensitised solar cells that can be recycled more easily and more effectively. “That has already worked at a laboratory scale!” says Schoden. For this step, he is collaborating with the IGR (Institute for Glass and Raw Materials Technology) in Göttingen. At the institute, optical emissions spectrometry was used to analyse the glass components and the surface of the glass was surveyed using scanning electron X-rays. “After that, we melted the glass in a furnace and compared it to a standard glass recycling process,” continues Schoden. “The results showed that the dye-sensitised solar cells are suitable for glass recycling, so they could potentially be reused without a downcycling process, in keeping with a circular economy.” Material properties such as resistance to chemicals, transparency and viscosity were not investigated, however, so they require further research.

Remanufacturing instead of recycling

Following Schoden’s investigations into the recyclability of the dye-sensitised solar cells, he is now working on the aspect of remanufacturing, i.e. the reuse of materials. “Remanufacturing is even better than recycling because

↳ The long-term goal of the research project is a “circular” dye-sensitised solar cell made with components that can be used again and again – without downcycling

I can reuse the glass as it is. I don’t have to melt it down before I can turn it into a new glass product,” he explains. “I essentially use the old dye-sensitised solar cells, without using any complicated procedures or additional energy, and make something new out of them.” Experiments are underway in this area, too.

The next step is to design a “circular” dye-sensitised solar cell. The circular economy is becoming an increasingly important topic at the Institute for Technical Energy Systems (ITES). The institute is led by Prof. Dr. Eva Schwenzfeier-Hellkamp, who is a strong advocate of this research topic and is also overseeing Fabian Schoden’s PhD. Together, they are working on this final step of developing a dye-sensitised solar cell prototype that is truly circular. Their work will be informed by everything they have learned from all of the previous experiments.

Integrating Tools and Technology into our Thinking!

In its history, Minden Campus has overcome huge challenges – and it needs to keep overcoming them. One way to ensure that teaching is successful is by having flexible learning and teaching formats, and enthusiastic and dedicated teaching staff. This is what came out of a conversation between student Laura Schramm and the faculty's dean, Prof. Dr. Oliver Nister.

↳ Laura Schramm is from Erding in Upper Bavaria. Since the summer semester 2022/23, she has been studying a bachelor's degree in Civil Engineering at Minden Campus. The 24-year-old already has a bachelor's degree in mechanical engineering (from TH Ingolstadt) and is also enrolled on the BioMechatronics master's degree programme at HSBI in parallel. Over the last year, it has become clear to her that she wants to "build sustainable homes" – herself. That's why she is supplementing her studies at Minden Campus. In her conversation with the dean, Prof. Dr. Oliver Nister, Schramm emphasises that climate-neutral business is the most important goal for her generation and voices the criticism that too many members of the teaching staff have "remained stationary" in their educational methods

Prof. Nister, how was 2022 at Minden Campus?

Prof. Dr. Oliver Nister: Good! After two years of severe restrictions resulting from the pandemic, optimism and enjoyment of studying and teaching returned to our campus. Face-to-face interaction – between fellow students and between students and teaching staff – is a must for successful learning. In terms of student life, a highlight was the reopening of our student pub, the "Keller." That was another thing that made campus life more colourful and joyful again. At the same time, we now have a greater appreciation of the remote working opportunities that we learned to utilise during the pandemic, and we have pressed ahead with integrating digital learning formats. Finally, we were able to stabilise our student numbers by introducing a range of admissions restrictions. Unfortunately, we only managed to recruit one of the three vacant professorships in the area of civil engineering.

How was 2022 from your perspective, Ms Schramm?

Laura Schramm: Personally, I am actually a big fan of online learning because I am doing two degrees at the same time and I live and work in the Bielefeld area. But my impression is that most students are relieved that we are back to in-person teaching. And I don't just mean the practical lab sessions, which need to be in person of course. In terms of the building work taking place on the campus, the noise has sometimes been annoying but it does seem to be making progress.

What is your impression of the next generation of students and of prospective students, who are perhaps still at school?

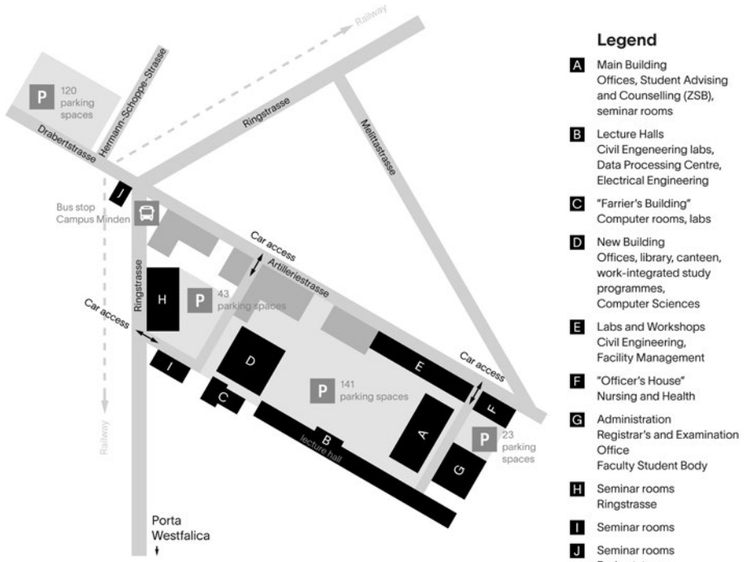
Laura Schramm: The unique thing about our generation is that, in comparison to older generations, we take tools and technology for granted; they are fully integrated into our thinking and our day-to-day lives. I also believe that we are more contemplative, which results in sustainability having a greater importance in our lives. After all, we are the ones who will have to live with the impact of climate change and environmental destruction – not the people who are currently nearing retirement age.

Are you optimistic that there will be a turnaround in the climate crisis?

Laura Schramm: We have to do something – we don't have a choice. There are lots of opportunities in the areas of consumption and technology. Everyone can make changes to their lives. In addition to that, there is a need for innovation and expertise, which is supplied by businesses and universities.

What do you think the "university of the future" should offer?

Laura Schramm: It should offer a range of different learning and teaching formats, with more videos and more self-study options. I have the feeling that lots of professors are stationary in these areas. But it still true to say that professors are a great source of motivation



Legend

- A Main Building
  Offices, Student Advising and Counselling (ZSB), seminar rooms
- B Lecture Halls
  Civil Engeneering labs, Data Processing Centre, Electrical Engineering
- C "Farrier's Building"
  Computer rooms, labs
- D New Building
  Offices, library, canteen, work-integrated study programmes, Computer Sciences
- E Labs and Workshops
  Civil Engineering, Facility Management
- F "Officer's House"
  Nursing and Health
- G Administration
  Registrar's and Examination Office
  Faculty Student Body
- H Seminar rooms
  Ringstrasse
- I Seminar rooms
- J Seminar rooms
  Drabertstrasse

Faculty of Minden Campus

HSBI's Minden Campus offers academic educational training to over 1,500 students. There are twelve study programmes, including five conventional full-time bachelor's degrees: "Architecture", "Civil Engineering" (collaborative study also possible), "Project Management Construction," "Computer Science" and "Infrastructure Engineering." The courses on offer also include the "Electrical Engineering," "Mechanical Engineering" and "Business Administration and Engineering" work-integrated bachelor's programmes. All graduates of the bachelor's degrees can also continue onto the "Computer Science," "Integral Construction" and "Integrated Technology and System Development" master's programmes. The latter can also be studied part time.

↳ The renovation of the buildings in the historical section of Minden Campus was resumed in 2022 and will continue to affect students and teaching staff in 2023 as well. "But from month to month, it is becoming clear that Minden Campus is an enjoyable place to study, teach and research!" says the faculty's dean, Prof. Dr. Oliver Nister. At the start of the year, work focused on the south wing of Building A and the completion of the outdoor facilities in the area surrounding Building G. The preliminary plans for renovating the north wing of Building A have already been drawn up. Preliminary investigations have also taken place for restoring the roofs of buildings B and E. Furthermore, initial investigations have been arranged regarding the restoration of the external wall on Artilleriestrasse

for students. Good professors ensure that the spark of excitement is passed on to their students.

Oliver Nister: That's true. Success has and will always depend on teaching staff who are hard-working, collaborative and knowledgeable, and who can work independently and carefully. I would like to take this opportunity to offer my heartfelt thanks to our staff for all their dedication! But recently the underlying conditions have been changing rapidly. In this area, the resources of time and money have been stretched for a long time already. At the same time, all teaching staff should always be open to change – and should ideally be involved in implementing the change in an innovative way – while also continuing to invest in their own lifelong learning. Doing all this is a significant challenge, and of course not everyone is equal to the challenge. That is why one of the things we are doing at our campus is considering how to improve the efficiency and robustness of our processes. The main focus here is on the need for personal accountability regarding reaching goals.

What do you think of the university's new name?

Laura Schramm: I think it is a topic that doesn't particularly affect students. The name of the university doesn't contribute to the quality of the student experience. A university's reputation is built on its ability to produce good graduates. It is predominantly companies who are interested.

Oliver Nister: In my view, the decision to change the name from "Fachhochschule" to "Hochschule" is a logical one. It was time to make it clear that the scope of our work has changed over the years. In addition to application-oriented teaching, research and transfer have become more and more important. The university's impact on wider society has changed. What's more, in November 2022, together with the other 20 universities of applied science in North Rhine-Westphalia (NRW), HSBI was given the right to independently confer a doctorate via the Graduate School for Applied Research in NRW. This is a milestone because it removes the dependency on the "Universität" institutions for PhD student supervision. And it is yet another reason to part ways with the "Fachhochschule" description. I also like the fact that the "Arts" have been added to the subheading of HSBI's name. It means that the university's description also makes reference to our "Architecture" bachelor's degree and our "Integral Construction – Architecture" master's degree. The implementation of the new corporate design is an opportunity to improve the public image of Minden Campus, as well. It will now be easier to address the question of how the campus can attract attention on a regional level – by ensuring that there is adequate signage in the town, for example.

Student Designs a Residential District

Rochdale Barracks, which has been unoccupied since 2020, is to be re-occupied by Bielefeld locals. Alena Ostrau, an Architecture student at HSBI, has an idea about what it could look like. In her bachelor thesis, she presented a design for the workshop building at the former barracks. Her work was exhibited as part of the "TRANSURBAN Residency" festival.

↳ From a depot to a district – Architecture graduate Alena Ostrau's bachelor thesis presented a design entitled "Experimental Living in the Rochdale Quarter"

The Rochdale quarter in Bielefeld's Sieker district is formidable. The site, which previously housed British soldiers, is the size of 12 football pitches. The soldiers withdrew in 2020 and Rochdale Barracks has been vacant ever since. But that it set to change. In late summer last year, the "TRANSURBAN Residency" festival turned the site into a showcase for over 50 artists from Bielefeld. The team from TRANSURBAN, together with HSBI and the Rome-based architecture collective "orizzontale," developed a diverse cultural programme featuring concerts, readings, creative workshops and exhibitions. There were also around 70 HSBI students, who were keen to use the site as a studio and exhibition space for their thesis projects. One of them was Alena Ostrau. As part of her bachelor thesis, she created an architectural design showing how the workshop building of Rochdale Barracks, which was previously used for repairing tanks, could be transformed into a residential district.

"Convincing conceptual design"

Prof. Dipl.-Ing. Bettina Mons from HSBI's Minden Campus had set Alena Ostrau and her fellow architecture students the task of developing a futuristic and experimental living concept for a new, long-term usage of the workshop building. There needed to be 25 to 30 accommodation units of various sizes in order to appeal to single people, families and older residents. "Ostrau's design was convincing both in the conceptual design of the use typologies that she chose, and in the way she dealt with the existing industrial building," said Prof. Mons.

A district inside a depot

The interesting thing about the 22-year-old's design is that the imposing steel construction of the workshop building remains in place. "Apart from that, I hardly left any aspects of the workshop in place. The roofing and walls no longer meet today's building regulations, so I decided to get rid of them completely," she explains. The single-storey annexe to the right-hand side of the warehouse had to be removed as well.

The new residential quarter now consists of 12 individual buildings with accommodation units for younger and older people, as well as open and communal green spaces. Ostrau has essentially built a small but complete district inside the warehouse. All that is left of the original building is the steel framework, which holds together the ensemble of individual buildings and is visible from some distance.

It was important to Ostrau that the self-contained accommodation units received plenty of natural light. "But at the same time, I wanted to maintain the dimensions of the original building in a way that is recognisable. The original framework, with its steel girders, can easily be seen from a distance. That element is the crux of my design."

↳ Ostrau's design for a residential district consists of 12 individual buildings with accommodation units for younger and older people, as well as open and communal green spaces

↳ The unique thing about the Architecture graduate's design is the way that the imposing steel structure of the workshop building is left in place and determines the positioning of the accommodation units

↳ Alena Ostrau was one of around 70 HSBI students who used the Rochdale Barracks site as a studio and exhibition space for their thesis projects

Connecting old and new

And the thing she most enjoyed about her work? "Experimenting and tinkering around with how the individual structures could be placed over and under the steel construction, seeing all of the different types of residential housing that could be created – that really was fun." The budding architect said that connecting and reinterpreting old and new was another source of motivation. It was also what gave her the idea to integrate the steel construction into her design as a stylistic element, and to orient the positioning of the accommodation units around the steel girders.

Practical orientation and focus on technical aspects

For a total of two weeks, Ostrau spent four or five hours a day working alone on her scale model, creating the delicate replica of the steel construction, as well as the individual accommodation blocks and green spaces. She had eight weeks to come up with the concept, create the plans, generate the model in the architectural software tool ArchiCAD and construct her model.

Her studies prepared her for this large, complex project. "The Architecture programme at the university has a strong focus on practical application and on technical aspects," Ostrau reports. "This put me in a very good position when it came to working on the design for my thesis project."

In addition to the steel girders of the roof construction, Ostrau also left the existing pits inside the workshop building in situ – and turned them into stretches of water. This would mean that in the summer, residents could play or relax in the green spaces and then jump into the water to cool off. Ostrau is very much in favour of repurposing the former barracks. "Although the idea of turning a barracks into a new residential district isn't a new one, it is still exciting to see how the site will be transformed," she explains. "After all, every residential area has its own specific requirements that need to be considered when planning a development, or, as in my design, that provide inspiration for new ideas and unusual solutions."

MA students create concepts for short-term use

While the bachelor students at HSBI were focusing on the long-term use of the workshop building, students from the Integral Construction master's programme at Minden Campus were focusing on the way Rochdale Barracks could be used in the short term. They worked on concepts for the five-year interim usage phase that is planned for the site. Their work resulted in plans for co-working spaces and studios, as well as marketplaces, workshops and sports facilities. Collectively, the master's students developed 12 posters depicting their ideas. These posters were also displayed during the TRANS-URBAN Residency event.

Carmaking with School Pupils

↳ Students from the work-integrated Electrical Engineering, Mechanical Engineering and Business Administration and Engineering bachelor's programmes designed the concept for the remote control cars project, which aims to get school pupils excited about the idea of studying engineering

HSBI students at Minden Campus showed just how exciting it can be to work as an engineer. They created a lab session that was especially designed for school pupils, during which pupils could develop a remote-control car while at the same time becoming familiar with various activities in the fields of business administration and engineering, mechanical engineering and electrical engineering.

All is quiet in the main lecture hall at HSBI's Minden Campus. The audience is deep in concentration, listening to a group of students explaining about and presenting the outcome of their project. It is a small car that they have made themselves. It has a somewhat angular design and is rather unimposing, sitting there on the floor. When suddenly, the vehicle starts moving by itself! A murmur ripples through the rows of seating. The murmur grows louder as the car switches its headlights on.

Applied Science Project

The little vehicle was the central focus of the Applied Science Project (Projekt Angewandte Wissenschaft – PAW) entitled "Creating a School Pupil Project: Developing and Building a Remote Control Car." PAWs are a fixed element of the work-integrated Electrical Engineering, Mechanical Engineering and Business Administration and Engineering bachelor's programmes at Minden Campus. Every student on these courses is also employed by a company and alternates between academic terms at HSBI and work terms at their company.

PAWs are completed in the sixth semester. "By this point, the knowledge from their classes is still fresh in the students' minds; the knowledge can be applied independently and technically implemented during practical tasks," explains Prof. Dr.-Ing. Vanessa Uhlig-Andrae, who is the Academic Programme Director for the work-integrated bachelor's degree in Mechanical Engineering. She is also responsible for the subject area of manufacturing engineering at Minden Campus.

"The experience that students have now gained in their companies is also helpful. They have often already had some practice with using machines and in practical manufacturing," Uhlig-Andrae continues. She enlisted Prof. Dr. Philip Wette to partner with her in supervising the PAWs. He represents the subject area of Engineering Computer Sciences at Minden Campus.

Stirring curiosity in school pupils

When setting the task in 2022, the starting point was the skills shortage in the engineering sector. The two professors asked themselves how it would be possible to get young people excited about studying an engineering subject. "Who would know better than young people who have decided to do that very thing? So we thought, why not task the students with developing a project or lab session for school pupils, during which pupils can find out what it means to be an engineer?" Prof. Uhlig-Andrae explains.

↳ When considering electro-mechanical products that can be produced with economic aspects in mind, a remote control car is a good case study for the fact that engineers require skills in a very wide range of areas

All that was missing was a product that the pupils could actually develop and make themselves. The idea? A remote control car! “When considering electro-mechanical products that can be produced with economic aspects in mind, a remote control car is a good case study for the fact that engineers require skills in a very wide range of areas,” Philip Wette explains. “And there is such a great feeling of success when a car you have made actually sets off in response to the remote controller.” Wette is a computer scientist and an expert in autonomous driving, who previously worked in this very field at Bosch.

↦ Information

Mechanical Engineering
www.hsbi.de/studiengaenge/maschinenbau-bachelor-praxisintegriert

Electrical Engineering
www.hsbi.de/studiengaenge/elektrotechnik-bachelor-praxisintegriert

Business Administration and Engineering
www.hsbi.de/studiengaenge/wirtschaftsingenieurwesen-bachelor-praxisintegriert-minden

Expanding the range of lab sessions for school pupils

To ensure that it would actually be possible to implement the concept for the lab session, the next step was for the students to try out whether they could develop and manufacture a remote control car – and how. After that, the tried and tested concept was ready to be offered to school pupils. At the moment, the Faculty of Minden Campus is exploring options for suitable partner schools in the region.

The students who were tasked with creating the concept had free rein. “We essentially replicated a small version of a complex project and simulated the process of placing an order. The teaching staff acted as the customer and the students were the product developers,” says Uhlig-Andrae. This meant that the students themselves had to define the tasks and distribute them across various teams to be tackled. 16 students participated from all three of the work-integrated study programmes at Minden Campus.

Mediating between the disciplines

The first role to be assigned was the central position of project manager, which was allocated by vote to Marius Schröder. “The voting process was a challenge because there were lots of people representing different disciplines,” the Mechanical Engineering student explains. But the diversity of skills was definitely needed for building the vehicle. “The greatest challenge was the interdependency of the individual components to be developed – and each component needed to be precisely defined in order to work with the others.” Schröder gives an example: “The Electrical Engineering students needed the wheel circumference in order to develop the drive system, but the optimum measurement for the wheel had to be determined by the Mechanical Engineering students. And everything had to be true to scale.”

Explanatory films for school pupils

At the same time, the students were documenting the whole development process and explaining their methodology and milestones. One way they did so was with short explanatory films. In this way, they were designing the pupil lab session in parallel. There were interdependencies in that respect, too. The car’s base plate, for example, was milled rather than using the easier method of 3D printing. “Milling is an important activity in mechanical engineering, pupils should definitely become familiar with it,” explains Mechanical Engineering student Daniel Friese. “The students had to step into the shoes of the teaching staff and consider which prior knowledge could be assumed, which tasks would be exciting for the pupils and what would be fun,” adds Prof. Dr.-Ing. Vanessa Uhlig-Andrae.

Developing a solution independently

What would be fun? The students didn’t have to think about that one for too long. In addition to the technical work, the interdisciplinary teamwork was also a great experience. Although they were familiar with these aspects from their companies, as well as the idea of processing an order, there was one big difference at HSBI. “At work there is always someone who knows a lot more and who says how we’re going to do something. In this project, we were all on a level playing field and were able to develop the solution completely independently,” says Daniel Friese. So the moment when the car actually started moving for the first time was all the more joyful – a real feeling of success. Now all that is missing are the school pupils!

Tolerant and Open-Minded or Compliant and Well-Behaved?

What is the current generation of digital natives like? Listening in on a conversation between these two is sure to help us answer that question. When Social Work student Merle Gutknecht spoke with the dean of the Faculty of Social Sciences, Prof. Dr. Michael Stricker, they also reviewed 2022 and discussed the relevance of the faculty in the years to come.

↳ Merle Gutknecht is studying a bachelor's programme in Social Work. Alongside her degree, the 21-year-old is involved as a student advisor at the faculty, where she is a peer to peer contact person for her fellow students if they have questions or problems related to their studies. This is an unusual role because student assistants at the Faculty of Social Sciences generally work autonomously and are not assigned to a specific professor. In her future professional life, Gutknecht hopes to be in a role where she offers advice and practical support to people in crisis situations

Ms Gutknecht, how was 2022 from a student perspective?

Merle Gutknecht: At the start of the year, there was hardly any social life to speak of at the faculty. For two years, I studied almost exclusively over Zoom. When I first stepped foot into a seminar room and saw my fellow students in front of me, in real life, everyone was silent to start with. Nobody knew each other, nobody spoke to each other. Although this did change over the coming weeks, it was really quite a strange experience. Up until that point, we had only interacted about the subject matter being taught. But that in itself is not enough, especially in our field of study – after all, it is very focused on communication and cooperation. So 2022 showed me how valuable face-to-face time is as a student. This can also be seen in the fact it has taken until now for students to be willing to engage with committees again, such as the faculty council. When teaching was all online, it was very difficult to get people interested in these committees.

And how was the year from the perspective of a dean?

Prof. Dr. Michael Stricker: We have tried to discover what we liked and didn't like about digital teaching. Which aspects from this period of time can we integrate into our teaching? It seems to me that at least a selective implementation of online learning looks to be a valuable option, depending on the situation. We have also been working on the long-term re-structuring of our bachelor's study programmes. This has involved re-organising the content, while retaining large modules. We have also been planning for the statutory work terms to be integrated into the study programmes, so that state accreditation can be obtained during the degree course – rather than after graduating. For our researchers, key topics included societal transformation, health, dealing with digitalisation and the consequences of Coronavirus. At an organisational level, there was a focus on staffing changes – welcoming new professors – and, in the same vein, the implementation of the HAW Professorship careers programme.

What makes the current generation of students and prospective students tick?

Merle Gutknecht: To start with, we are all digital natives, who do not know a world without the internet. We are networked, which in itself means that we are globally oriented in our knowledge and thinking. There is a focus on big problems such as climate change and demographic transformation, which are both linked to the topic of generational justice. Another characteristic is fear about the future. Many are confused and some are also distressed about the difficult challenges ahead. Although I am of course viewing all of this from my own "bubble," I do think that all in all, we are an open-minded, optimistic generation that is generally tolerant.

Michael Stricker: From my perspective, the routine interaction with digital media is also a key feature, although in my

↳ One of the topics discussed by Merle Gutknecht and her faculty's dean, Prof. Dr. Michael Stricker, was the benefits of the university's name change. The student has already gained practical experience as an intern at Wildwasser Bielefeld e.V., a point of contact and counselling service for women who experienced sexual violence as children. Social engagement runs in the family – her father studied social work at HSBI when it was still known as "Fachhochschule Bielefeld"

↳ The Faculty of Social Sciences has workshops and special facilities for theatre, the visual arts and music, which are available for self-study and teaching times

experience there isn't much reflection about this interaction. Compared to previous generations, anti-authoritarian postures tend to be a rarity. So in some respects, Generation Z seems to be well-behaved and compliant – for example, compulsory mask-wearing in our buildings was accepted without grumbling. On the other hand, there does seem to be a strong desire to be involved in macrosocial processes and to change something for the better. This often has a very pragmatic focus – campaigning for more vegan food at the canteen, for example

Is this generation, which includes graduates of this faculty, ready to tackle the big challenges of the future in terms of Coronavirus, the war in Ukraine, climate change and the increasing financial pressure on large swathes of the population?

Michael Stricker: In terms of our graduates, yes! They will be a great force for change. The whole point and purpose of our programmes of study is to learn how to navigate difficult situations in a professional way. Coronavirus, climate change and social justice are subjects that are explicitly covered in our study programmes. Our students have very good chances on the employment market – our graduates will definitely be needed!

In future, which areas do you think should be given more attention in the faculty's course offer, Ms Gutknecht?

Merle Gutknecht: I think the focus should be to build on the existing strengths of these study programmes – the professionalisation of the programmes and the scholarly foundations that underpin them. People used to say, sometimes with good reason, "You're studying a waffle subject!" But nowadays it is very clear that we are about much more than just doing charitable deeds. We have a societal and political mandate and we represent an independent profession. I also think that the faculty should further broaden its areas of qualification and the creative opportunities that it offers.

Do you have any hopes associated with the renaming of the university?

Merle Gutknecht: I think it was right to get rid of the term "Fachhochschule." The term "Hochschule" is much more in keeping with the professionalisation standards and the scholarly foundations. Another way that this shows is in the increased levels of research here, compared to when my father studied at the "Fachhochschule."

Michael Stricker: Yes, one advantage of the name change is that it further clarifies the difference between our organisation and the vocational schools. I also think that the inclusion of the term "Arts" is valuable because it gives visibility to our artistic related fields of study. But to me, it seems that what was perhaps even more important than the name change itself were the processes associated with it: updating our online presence, creating a new logo and modernising our overall external image.

Faculty of Social Sciences

At the Faculty of Social Sciences, HSBI trains professionals in the fields of social work and education. The faculty offers the (Early) Childhood Education and Social Work bachelor's programmes, as well as the master's in Social Transformation Studies. In addition to their standard course offer, students on the bachelor's programmes can enrich their knowledge in three areas of qualification: "Culture and Media," "Methods of Empirical Social Research" and "Musical Education." Across all programmes of study, teaching is interdisciplinary and is designed to be heavily dialogical and project-oriented. This means that students do not simply assume the role of recipients; they are actively involved as well.

Putri Jumadi Has Arrived

The student, who is originally from Indonesia, is studying (Early) Childhood Education at the Faculty of Social Sciences. As a way of recognising her academic achievements and voluntary work, including at the charity “Lebenshilfe Gütersloh,” she was awarded HSBI’s DAAD Prize.

↳ Alongside her studies, Putri Jumadi works at the Bültmannshofschule primary school in Bielefeld, volunteers at “Lebenshilfe Gütersloh” and produces her own podcast about living and studying and in Germany

You don’t have to talk to Putri Jumadi for long before you realise how much she likes it in Germany. With bright eyes and a smile on her face, she tells the story of how she ended up in Bielefeld. She studied German in her home country, came to Gütersloh as an au-pair and has been studying (Early) Childhood Education at HSBI’s Faculty of Social Sciences since 2019. Alongside her studies, she works at the Bültmannshofschule primary school in Bielefeld, volunteers at “Lebenshilfe Gütersloh” and produces her own podcast about living and studying in Germany. The commitment of the 28-year-old has not gone unnoticed by the university. In 2022, Putri Jumadi was awarded HSBI’s DAAD (German Academic Exchange Service) Prize.

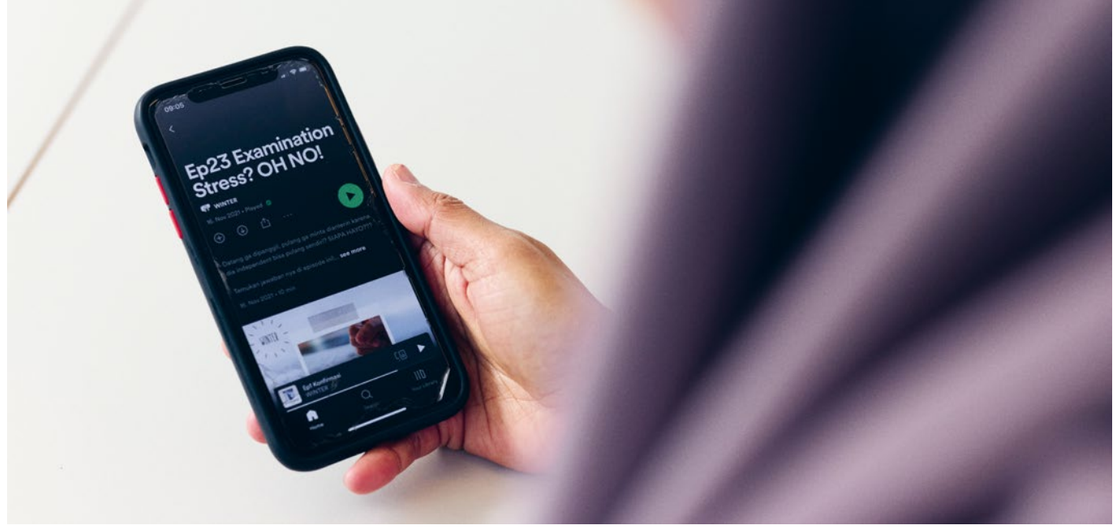
The dream of studying in Germany

Putri Jumadi has been excited about Germany for many years. She first became interested when she started learning German at secondary school. Putri Jumadi was the first in her family to go to university, graduating from her bachelor’s degree (teaching with a focus on German) with a score of 1.7. Her love of Germany remained and she applied to be an au-pair with a family in Gütersloh. And after that period ended, she still wanted to stay in Germany. “My dream was to study in Germany!” she says. She chose to study at HSBI and decided on the (Early) Childhood Education study programme. With challenging seminars and a new environment – and all in a foreign language – the Indonesian native found her studies challenging to begin with. “I did receive a lot of encouragement, but it wasn’t just from the teaching staff. My fellow students were always encouraging me, too.”

Podcaster and intercultural go-between

Putri produces an Indonesian podcast about her life and studies in Germany, with topics ranging from exam stress and German quirks to homesickness. At the start of the Coronavirus pandemic, she taught herself how to use the technology – from recording and processing the audio files right through to the editing process. “I like trying new things. And I really enjoy it! When I started, I would never have thought that I’d make 30 episodes,” Putri Jumadi

↳ As a way of recognising her academic achievements and voluntary work, Putri Jumadi was awarded HSBI's DAAD Prize



↳ Putri Jumadi produces an Indonesian podcast about her life and studies in Germany, with topics ranging from exam stress and German quirks to homesickness

laughs. She is also a member of a non-profit Indonesian student organisation and regularly contributes to a student radio station about studying in German. She wants to encourage others to study abroad.

Volunteer work

And what are her plans when she finishes her studies? "My dream job is to work in primary education. I want to help children with their development and learning." She already has some professional experience, having completed internships at Kindergartens and primary schools in Bielefeld and supported children at an international school who have experienced displacement. A year ago, she also started working in the after school provision team at the Bültmannshofschule in Bielefeld. In addition to her studies, part-time job and podcasting activities, the 28-year-old also finds time for voluntary work. Since 2019, she has been volunteering with "Lebenshilfe Gütersloh," where she assists children with disabilities during leisure activities and trips. Putri Jumadi: "Making other people happy is important to me. And I also feel good when I can do something good for society."

↦ Information

Study programme: (Early) Childhood Education
www.hsbi.de/studiengaenge/paedagogik-der-kindheit-bachelor

"It really is possible!"

Putri Jumadi's level of engagement came to the attention of her professor, Dr. Yüksel Ekinci, during a seminar. "Putri Jumadi's contributions in the seminar enriched the intercultural understanding of many of her fellow students from Germany," Ekinci explains. "It is an extraordinary achievement to come from a non-academic family, to study at university and then to even have the courage to come to Germany. It must be very challenging to cope with living here without any family – and to do so much voluntary work alongside her studies, too. This encourages other students, too."

The professor therefore nominated her student to receive the university's DAAD Prize. The DAAD Prize, which is worth 1,000 euros, has been awarded at German universities for over 20 years and recognises the achievements and engagement of international students. Putri Jumadi was officially presented with the DAAD Prize at HSBI's awards ceremony in spring 2022. At the ceremony, a total of 56 prizes were awarded to international students. In her laudatory speech, Prof. Ekinci emphasised why she nominated the student for the prize: "What makes Putri Jumadi stand out is the way she supports other people, despite having difficult situations in her own life. Her smile gives us courage and shows us all that it really is possible!"

Giving Young People a Voice

↳ Karen Heid (left) has been part of the co*gesund research team since she was a student. She has since completed a master's degree and continues to work on the project as a research associate

A study conducted by HSBI and Hochschule für Gesundheit Bochum (HS Gesundheit) shows that there has been an increase in psychosocial problems among disadvantaged young people – and solutions are needed. Researchers on the co*gesund project team have been working together with professionals and young people in order to find these solutions.

The lockdowns during the Covid-19 pandemic are continuing to have an effect. "Many young people are still battling with the consequences of social isolation and school closures," states Prof. Dr. Anna Lena Rademaker from the Faculty of Social Sciences. This is particularly evident among young people who are socially and educationally disadvantaged. The stresses are significantly greater among this group, yet at the same time they have fewer resources and opportunities.

Breaking rules helped young people

The situation worsened during the pandemic. There were, for example, no youth groups or leisure activities where interaction could take place. Opportunities for low-threshold support were also missing. But young people did also develop strategies for coping with the restrictions. As well as creating their own alternatives, they also broke the Coronavirus-related rules – by meeting with friends in basements, for example. "Breaking rules helped them to cope with the crisis situation of the lockdown. It strengthened their psychosocial health," Rademaker summarises. This is one of the initial findings from discussions with young people in the context of the co*gesund research project, which she is leading.

The project, which is being undertaken in partnership with HS Gesundheit in Bochum, is investigating the impact of the Covid-19 pandemic on the psychosocial health of young people. It is receiving funding from North Rhine-Westphalia's Ministry for Labour, Health and Social Affairs (MAGS) and the European Union. The goal is for researchers, professionals and young people to work together to develop specific recommendations for targeted and appropriate health improvement measures. It is a feasibility study and thus a kind of preliminary study that is testing out some possible solutions and then, where possible, proceeding to embed the topic within a longer term project in the interdisciplinary research group.

Taking into account diversity among young people

The empirical discoveries of the preliminary study clearly show that socially disadvantaged young people are particularly in need of spaces and opportunities for development that cater for diversity among young people.

From this finding, the researchers have proposed a wide range of recommendations for improving the support options available, especially options for educationally disadvantaged young people during the period of transition from school to professional training and working life. "The diverse interests, strengths and skills of young people – but also the diversity of their difficulties and challenges – must be the focal point when designing transition processes," Rademaker explains. "Their physical, psychological and social health has an impact on all areas of life, so health promotion and preventive measures must be viewed as tasks that intersect across the settings of youth social work, careers support and school." Rademaker goes on to explain that the actions of professionals in this respect should be centred around the participation of young people, and that participatory culture should be ingrained in the structural setup. "Even in times of crisis – and in the face of current societal developments such as migration induced by war or climate change, poverty and the digitalisation of the educational system – municipal structures still need to guarantee reliable and accessible assistance, advice and support."

"Coronavirus acted like a magnifying glass"

Alongside the team from HS Gesundheit in Bochum, the Bielefeld-based team consists of Prof. Rademaker, Karen Heid and Saskia Beckmann. Beckmann is a student on the Social Transformation Studies master's programme and Heid is a graduate of the same course. It wasn't long before the project registered its first success. Their overview of the status of international research on the topic, which they wrote together with the team from HS Gesundheit, was published in the academic journal Sustainability. The article, which is entitled "Well-Being during the Pandemic – Insights from a Rapid Review on the Mental Health of Disadvantaged Youth and Young Adults" was published recently. The researchers picked out and analysed 42 papers from a large number of international studies. The criteria included the country/region, the age and educationally disadvantaged status of the respondents and of course the reference to Coronavirus. In order to ensure that the living conditions of the group being investigated were comparable, the overview only examined studies from industrialised nations. Most of the studies were from the USA and Germany but there were also some from Norway, Great Britain, Canada and Brazil. Nonetheless, the analysis was challenging. "We had to take into account and compensate for differences in methodical approaches and in the way the pandemic unfolded in the countries being considered," Saskia Beckmann explains.

The findings were unambiguous and confirmed the observations of professionals. "The psychosocial health of young people worsened during the pandemic, especially among those who are already disadvantaged socially and in respect to educational opportunities," Beckmann summarises. Rademaker is not at all surprised by this. "For decades we have been observing this development in relation to health and social disadvantage. Coronavirus acted like a magnifying glass – it amplified the problems," she explains. The professor goes on to give an example: "If you were scared of exams, you might have had parents or friends whose knowledge, experience or even relationships could help to dissipate these fears. But those coming from households that are socially and educationally disadvantaged would often be reliant on external support, such as social work interventions at school or in leisure settings." During the lockdowns, these support opportunities were almost completely withdrawn. "This hugely increased the pressure on young people and had a negative impact on their health."

Yet according to Rademaker, general and psychosocial health is a key prerequisite for successfully navigating the critical transition between school, professional training and working life. "Whether or not this phase is successfully navigated is one of the factors that determines opportunities for social participation in later life. As such, it also has a long-term impact on health." The co*gesund project is therefore specifically focusing on educationally disadvantaged young people who are in this transition phase. By doing so, they will be filling a research gap – as evidenced by their overview of the status of research. What is putting a strain on these young people? Which measures would provide them with effective support? How can their resilience be boosted? Karen Heid used these discussion questions in interviews with social work professionals and teachers, as well as in group discussions with young people. "This means we can include a range of perspectives, especially the perspectives of the people who are directly affected. Doing this also enables us to discover the resources provided by the young people themselves."

Responsibility grows resilience

In addition to the rule breaking mentioned above, it was discovered that another very different factor also boosted resilience: responsibility! "Those who had previously held responsibility generally coped better with the strains they experienced during the pandemic." Anna Lena Rademaker has seen this in refugees who are minors, for example. "Some young people with experience of displacement told us that the lockdown hadn't put them under too much strain. To put it bluntly, they had already been through much worse things and had to look after themselves much more carefully in order to escape successfully." By contrast, the interviews and discussions revealed that the withdrawal of careers advice services and support in obtaining work experience resulted in high levels of uncertainty in numerous young people. "During the pandemic, these young people were not given an inside view of the real world of work and were not able to experience or try out any lines of work," Rademaker explains. "Now, many of them don't know how to make a decision and are scared that their choice of profession is fixed and final."

Environment, Info Overload, Insecurity

One of the most important concerns of the Bielefeld School of Business at HSBI is an increasingly international orientation. The school's dean, Prof. Dr. Riza Öztürk, and vice dean, Prof. Dr. Peter Hartel, were therefore keen to have their conversation about the starting conditions and requirements of "Generation Next" with Karel Tomšík, a double degree graduate from the Czech Republic. The crux of the discussion was that in times of crisis, universities should first and foremost convey hope.

↳ The school's dean, Prof. Dr. Riza Öztürk (left), and vice dean, Prof. Dr. Peter Hartel (right), had their conversation with Karel Tomšík when he was visiting Bielefeld. The 24-year-old is pursuing an academic career and has successfully completed the double degree programme at HSBI and the partner university, Czech University of Life Sciences Prague (Česká zemědělská univerzita v Praze, CULS)

What was the most urgent goal in 2022 for Bielefeld School of Business?

Prof. Dr. Riza Öztürk: We wanted the experience we gained during the Covid-19 pandemic – in terms of working with digital formats – to be further integrated into what we offer; we also wanted to press ahead with implementing the university's sustainability strategy in our faculty and to further intensify international projects.

Can you name any examples?

Prof. Dr. Peter Hartel: One example in the area of digitalisation is that we launched an "online week." Another example is that students can now access their completed exam papers and grades digitally. In the area of sustainability, we, together with the Faculty of Engineering and Mathematics, Bielefeld's municipal government and the city's municipal utilities, have signed a letter of intent to collaborate on energy supply and mobility projects. Finally, we held the first Bielefeld International Conference for Applied Business (BICAB), with 70 participants from numerous different countries and also expanded the double degree programme with our partner universities.

Mr Tomšík, you are one of the graduates from these new double degrees and are part of the next generation in business and scholarship. What are the main characteristics of this generation?

Karel Tomšík: Three characteristics come to mind. Firstly, the focus on the environment and the fight against the overexploitation of people and nature. Secondly, information overload, which is really quite extreme as a result of the great number of digital channels. And related to that, the increased difficulty in understanding the links between things and in differentiating between hard facts and fake news. Thirdly, and most recently, a lack of optimism, which has been triggered by the depressing experiences of the Coronavirus pandemic, the war in Ukraine, inflation and energy scarcity.

The geopolitical situation is insecure and the economic statistics aren't looking great. In general, what influence do you think that good teaching and scholarship can have?

Peter Hartel: A very big influence! It is important to critically analyse these parameters as part of the teaching. Another aspect is research, which can bring forth innovative, creative

↳ Nermin Karaoglu coordinates the international activities at Bielefeld School of Business – she helps students like Karel Tomšík to obtain their double degrees

ideas. These ideas can give people – especially young people – the hope that enables them to tackle problems and to live a fulfilled life.

Riza Öztürk: Despite the problems that have been described, my experience – and that of my colleagues – has been that Generation Z is collaborative, willing to get stuck in, independent and pragmatic. I also think it is worth noting that although the young people in the next generation have never lived without the internet or social media, and seem to be constantly attached to their smartphones, our students were excited to return to in-person teaching, which features an effective, complementary combination of analogue and digital elements.

Karel Tomšík: That sounds good. Hope and the enjoyment of studying are perhaps the most important elements for getting off to a good start in one's professional career. I am convinced that in these more challenging conditions, only well-educated people will be able to successfully tackle societal developments without being led astray by demagogy. And that is one of the reasons why I would like to start an academic career once I have completed my master's degree.

Do you perceive there to be any differences between German young people and those in your home country of the Czech Republic?

Karel Tomšík: There are more similarities than differences, especially in the larger cities. In the provincial areas of the Czech Republic, however, I perceive there to be very high levels of frustration with developments in recent years, especially among socially disadvantaged young people. People are scared of being on the losing side, people are feeling ignored, people are angry with the establishment. It is a breeding ground for populism. If anything, these tendencies are intensifying at the moment.

HSBI is seeking to make its teaching and research futureproof. In keeping with this, our communication is optimistic and almost exclusively uses real life stories from the university. We recently parted ways with the old title of "Fachhochschule" as well. What do you think of the name change?

Riza Öztürk: For us, the introduction of the new brand, "Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI)," is a signal of a new start as well as the introduction of a new corporate design. It makes us more visible in a more contemporary way, both within the city itself and in the whole region – and both online and offline. We are getting involved in optimising the website and we are working on making our institution bilingual. All of this is very important for keeping us futureproof.

Peter Hartel: I agree. The renaming gives us a boost for new projects, while also providing an outward signal that we have outgrown the school-like establishment that is associated with the old name.

Karel Tomšík: When a corporate identity changes, the corporate design needs to change, too. I think that is a fairly elementary principle in marketing. As a foreigner, I am also quite glad that the "Fach" in "Fachhochschule" is disappearing because it was really quite hard to pronounce!

Bielefeld School of Business

With around 3,200 students and 22 study programmes, Bielefeld School of Business at HSBI offers the closely interwoven elements of teaching, research, business partnerships and entrepreneurship. The range of subjects is interdisciplinary with an international focus. It includes Business Administration, International Management, Computer Science, Psychology and Law.

The Next Big Thing

↳ Students at Bielefeld School of Business are educating their fellow students about crypto currencies and blockchains – a topic that is relevant but hard to grasp

In the world of finance, there is no avoiding blockchains. But they aren't very prominent at universities yet. That's why students in the "Decentralised Finance" work group are helping their fellow students to get up to speed by running sessions on crypto currencies and block chain – by students, for students!

"Blockchains are probably the next big thing in the world of finance," says Marc Panhorst. "The potential of this technology is not even close to being fully exploited. And at the moment, nobody knows how things will develop in this area in the coming years." Panhorst studies Business Administration at HSBI and is passionate about this topic – a topic that is becoming increasingly relevant yet is not easy to grasp. For this reason, together with a group of fellow students, he wants to make the subject matter more accessible to students. "At the end of the day, it is about much more than crypto currencies such as Bitcoin or Ether."

"Exchange is what it's all about"

It was Business Administration student Philip Girleanu who had the idea. "I work as a student assistant for Professor Rainer Lenz, so I am very familiar with this topic," he says. "We want these events, which are organised by students for students, to provide an introduction – with short talks that explain what blockchains and crypto currencies actually are. And there will be space for discussion, too, because exchange is what it's all about!" Lisa-Marie Eßmeier was also introduced to the topic in Rainer Lenz's lectures. "I am quite new to the 'Decentralised Finance' work group," the 21-year-old explains, although she is very involved already.

Financial transactions without banks

A blockchain is a list or ledger of datasets, to which data can continuously be added. Cryptography is used to securely link each new "block" to the previous one, so that the files cannot be changed retrospectively. New blocks are created in order to document transactions in a decentralised network. For this to work, the network users need to reach a consensus on every new block. There are various technological procedures for this. This consensus ensures that all users have an identical chain of data on their computers. And why is that useful? "For financial transactions, this method eliminates the need for a trusted middleman," Philip Girleanu explains. "When I transfer normal money to someone, an institution – be it PayPal or a bank – checks whether I have the money in the first place. But if I pay in Bitcoin, for example, this role is fulfilled by the global community of Bitcoin users." With each transaction, a new data block is created. But

this requires computing power, which is made available by the users. And users who commit lots of computing power are rewarded – with freshly minted Bitcoins. This is known as "mining."

Saving time with international financial transactions

It takes approximately ten minutes for a financial transaction like this to be confirmed. "That's fast if we compare it to international financial transactions," says Philip Girleanu. "Today, a transfer from Germany to Thailand still takes up to three days – so crypto currencies would offer a huge time saving here."

So it is hardly surprising that nation states are now also starting to carry out research in this field, and to design currencies that would be able to run on blockchain. "The EU already has projects of this kind. And Germany's Federal Ministry of Finance recently provided clarity for the first time about taxation law for crypto currencies," Girleanu says. "This topic is being taken more and more seriously – it really is here to stay."

Saving energy with blockchain

In this highly abstract branch of finance, sustainability is also playing an increasingly important role. "This is because a blockchain that is designed around the 'proof of work' procedure consumes a lot of energy," explains Marc Panhorst. "With this method, the consensus necessary for completing a transaction is reached through sheer computing power, as is the case with Bitcoin." The "proof of stake" procedure is significantly more energy efficient than the "proof of work" method. It involves the community members with larger shares having a greater chance of generating the next block and receiving the associated reward. There is no need for "mining," which uses a lot of electricity. "The crypto currency Ethereum has just successfully switched to proof of stake," says Panhorst. "It is definitely the future!"

↦ Information

Study programme: Business Administration
www.hsbi.de/studiengaenge/betriebswirtschaftslehre-bachelor

But crypto currencies are by no means a secure financial investment. "They are still very speculative assets," Panhorst emphasises. "They are not suitable for steady asset building, the volatility is too high." Although those who invested in Bitcoin two years ago have seen their holdings double in value, those who invested one year ago have now suffered losses of over 50 percent.

There is a lot of movement on the market – not least because of the increasing interest from a very broad array of players. "We are still seeing new crypto currencies emerging, increasing dramatically in value but not being usable," Philip Girleanu adds. "We will probably end up with around ten currencies that come out as the winners in the competition. And a great number of currencies will end up being worth nothing."

Numerous potential applications

Blockchain applications are also suitable for other fields of business. One example is in logistics, where numerous partners such as the consignors, recipients, couriers, shipping companies, public authorities and customs could work on a project collaboratively. The waste management industry is another example. The EU's BlockWASTE project, which involves researchers from HSBI, among others, has assessed how blockchain-based digital management could revolutionise waste disposal.

"Many ideas are still a long way from market maturity, but there are lots of visions and ideas being explored," says Girleanu. "For example, I imagine that it would be possible to organise polling in a way that made use of blockchains, to make it 100% fraud proof." Panhorst also sees opportunities in every area where data can be manipulated, including proof of identity documents, certificates, reports and contracts. "The phenomenal advantage of blockchain is simply this: that it can't be hacked."

Blockchain as a megatrend?

So is blockchain a megatrend that everyone should be getting on board with? "Knowing about it isn't essential yet," says Marc Panhorst. "But for me, it's a bit like thinking about your pension scheme," Philip Girleanu adds. "I don't want to get to the age of 60 and realise there's something I've been missing out on for the last 30 years." In any case, he believes that the signs of the times are clear: "When I was looking for placements a year ago, I realised that there are in fact some vacancies in this area already. And when you look at the figures for internet users 20 years ago, the numerical development over time matches identically with the figures for blockchain users today."

The Normality of Studying While Working

Electrical engineer Roman Buchholz completed a part-time master's programme in "Management for Engineering and Natural Sciences" at HSBI, thus broadening his expertise for his work in the field of international management at Phoenix Contact.

↳ Roman Buchholz is an electrical engineer who works as a product manager at Phoenix Contact. He is a graduate of the "Management for Engineering and Natural Sciences" MBA at HSBI, which he completed on a part-time basis

Roman Buchholz switches his smartphone to aeroplane mode and puts it down on the kitchen table. He makes himself a coffee, prepares a little bowl of nuts – brain food – and goes into his study. On his laptop, he switches off the pop-up notifications for emails and chat messages and sets his favourite playlist going. All analogue and digital distractions have now been eliminated and he has created the perfect studying atmosphere. He's in learn mode and can concentrate fully on his studies.

A degree and a full-time job

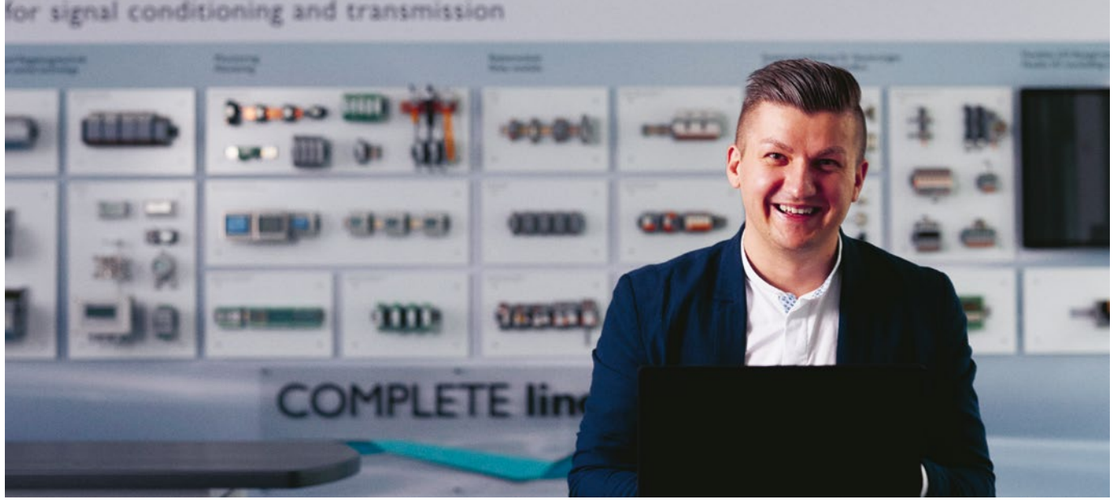
Being able to focus on the course material is even more important if you want to study part-time alongside a full-time job. Buchholz has been working in the area of product management at Phoenix Contact Electronics GmbH since 2015 and has successfully completed HBSI's Master of Business Administration (MBA) in Management for Engineering and Natural Sciences. For five semesters, the electrical engineer took on the double challenge of studying while working.

70 percent self-study

Part-time study programmes (also referred to as "part-time combined studies") are 70 percent self-study. The subject matter is covered by way of assignments that are designed to aid learning, as well as complementary digital materials. This differs from conventional degrees, where material is mostly taught in lectures. Furthermore, HSBI provides a comprehensive range of support in the form of tutorials, excursions and personal advice sessions. The self-study element is complemented by in-person teaching, which helps students to internalise the subject matter more effectively. Every other Saturday during the semester, there is a whole day of small group teaching sessions, where specific exercises and case studies are used to deepen the students' knowledge. This teaching concept means that students can largely choose for themselves when they study; there is no need to press pause on their professional careers.

Geared towards engineers and scientists

For Roman Buchholz, it was his day-to-day working life that provided the intrinsic motivation for further study. "I wanted to



↳ At his company, Phoenix Contact, employee Roman Buchholz leads projects concerning applications for solar energy and electromobility. The MBA helped him to better understand the complex operational interdependencies at play in real life application scenarios

↳ One of the products that Roman Buchholz oversees. Among other things, he is responsible for improving energy meters in the field of electromobility

develop additional knowledge for my managerial role, in order to better understand the connections within a company that operates globally," he says. Some of his key experiences included exhibiting at trade fairs and attending product training at the subsidiary in Switzerland. "I quickly realised that I wanted to share the knowledge I had gained in my development role in the context of direct contact with customers. So I was excited about the role in international management." He reflects that the MBA was "the perfect management toolkit for expanding my expertise in marketing and sales." For Buchholz, who is from Paderborn, another key factor in choosing the study programme at HSBI was its focus on the fields of science and engineering. "My work at the company combined with and perfectly complemented what I was learning on my technical master's programme," he explains.

The industrial firm Phoenix Contact, Buchholz's employer, develops products and solutions for the electrification, networking and automation of all areas of the economy and infrastructure. Roman Buchholz's field within this is measurement technology in direct current applications. "I am currently leading a project that is aiming to improve the value proposition of Phoenix Contact in relation to applications for solar energy and electromobility," he explains. The marketing and sales aspects of this work are predominantly set in an international context. His experiences from the MBA are helping him in that respect, too. "Something that I took away from the 'International Management' class is that other cultures are not better or worse – they are just different!"

New perspectives

The main way that the academic knowledge developed on the MBA course helped him was to improve his understanding of the complicated operational interdependencies at play in real life usage scenarios and to develop potential solutions. "The knowledge that I gained during my studies has resulted in numerous synergy effects in my current management role. I can now make the most of these synergies," he states.
In the reverse direction, at many points during his studies, he was able to draw on extensive background knowledge and use academic literature to feed into live topics at his workplace. One example of this was his master thesis entitled "Growth Strategies in Future Low-Voltage Direct Current Networks," which focused on analysing and redesigning the existing portfolio for new areas of application. "My fellow students from other companies also provided other examples from professional practice, which widened my own horizon and showed me new ways of solving similar problems. This process of reflecting on projects and business models helped me to view my own tasks with a fresh pair of eyes."

Studying successfully while working

Buchholz explains that structure and discipline are essential for coping with the study workload alongside a job. "Precise time planning is vital. I purposefully complement digital learning with periods of analogue study. I use a digital format to make a short summary of the teaching materials. I then repeat the summaries on paper, which helps to secure the information in my long-term memory." He finds that the inspiring learning atmosphere of a library helps with self-motivation. "In a library, you are working together yet alone – towards your own individual goals."

Teamwork is a substantial element of both his day-to-day professional work and his studies. "Group work tasks are like mini projects without a project lead. There are all sorts of possibilities for working with the content and deciding on the way forwards. It helps if you make clear agreements, and if you take a step back so that the collaborative goal can take centre stage. One particular type of group work during the study programme was the business simulation – a management game for replicating a market situation."

The HSBI graduate also has another tip for all students, regardless of whether they are studying full-time or part-time: "Unoccupied time, like when you're sitting on the train on your commute, or on the exercise bike, are great times for revising what you've been learning!"

Being well organised is crucial

It is important that the university's communication and faculty tutoring is efficient and, in Roman Buchholz's experience, this is especially true for students who are working. From his induction events right through to graduation, he always felt that he was well looked after. "In terms of the accompanying programme, which was organised by the study programme co-ordinator, Anja Kruschel, the joint excursion in 2018 brings back particularly fond memories. We visited the European Parliament, the Daimler factory and the Völklingen Ironworks – a World Heritage Site – and we also had a karaoke evening together. Our group forged strong bonds at that time."

↦ Information

Study programme: Management for Engineering and Natural Sciences (part-time MBA)
https://www.hsbi.de/studiengaenge/management-fuer-ingenieur-und-naturwissenschaften

And even after graduating, the connection to HSBI continues. "Alongside his classes, Roman Buchholz was a student representative, advocating for the interests of students on the subject committee," reports Prof. Dr. Andreas Uphaus, the former Academic Programme Director. "Together, we produced a podcast episode to draw attention to the study programme. We took a closer look at topics such as interdisciplinarity with regional companies and development." Phoenix Contact also sees the benefits of a part-time degree course. "Our colleagues are the key to our success," states Nina Mrugalla, whose responsibilities at the company include staff training and development. "In this volatile world, it is important that we are always up to date and undergo continued professional development. After all, to stay still is actually to move backwards! Roman Buchholz has embraced this dynamic and, fuelled by self-motivation, has undertaken additional training and development alongside his job. In addition to practical experience, solid foundational knowledge and specialisation in certain topics are important building blocks for career progression." Another benefit is that the practical aspects of the part-time degree programme can be tailored to the requirements of the employer.

Encouragement from Phoenix Contact

"On his own initiative, Roman Buchholz has acquired academic knowledge on the topics of marketing and sales. In his job, he can now combine this very effectively with his technological expertise," says Mrugalla. She explains that the combination of academic knowledge and direct, practical implementation makes it possible to fully utilise a colleague's personal and professional potential. "This is why part-time degrees are beneficial for the company and for employees alike," Nina Mrugalla concludes.

Looking back, Roman Buchholz is glad he chose to take on this double challenge. "If I could go back in time, I would choose the MBA study programme again!"

From Bielefeld to Prague – and Back

She made the most of the "International Studies in Management" study programme at HSBI and went to Prague to obtain a second bachelor's degree. Internationality is in her blood. Selin Korkmaz moves effortlessly between different cultures. Her experience means that the world of business lies open before her. That said, the 23-year-old is rooted in the OWL region.

↳ Selin Korkmaz (left), with two fellow students in Prague. She firmly believes that the double degree from HSBI and the partner university improves the intercultural expertise and career prospects of students

"Prague is a great city to study in!" says Selin Korkmaz. "It's extremely vibrant, every day there is an interesting event of one kind or another. It never gets boring. And Prague is affordable, which is of course very advantageous for students who don't want to amass huge debts from studying abroad." In September 2019, the 23-year-old from Bielefeld went to the capital of the Czech Republic for two semesters, as part of her "International Studies in Management" study programme. She now has two degrees to her name: a Bachelor of Arts from HSBI and a Bachelor of Science from Czech University of Life Sciences Prague.

Global academic culture

"It is a very international university," says Korkmaz, enthusiastically. "Lecturers from all over the world travelled here especially for two-week blocks of teaching. And my fellow students hadn't just come from European countries but also from the USA and South America – and even Kazakhstan." Korkmaz said she had sensed a sort of global culture, which swept through the seminar rooms. In group work, however, cultural differences made themselves apparent as well. "But that was never a particularly big problem. And it is in these kinds of situations that you develop those intercultural skills that you often hear about."

With her double degree, Selin Korkmaz views herself as being well-positioned for the labour market of the future. "All of the subjects that I studied on this programme are geared towards international business," the alumna says. "From the second semester onwards, everything is in English. From the fifth semester, you have to take a module in a second foreign language." She says that the nine-month period she spent in Prague was particularly effective in expanding her view of the world. "I had to get out of my comfort zone and I became more independent. And when you experience a pandemic in a foreign country, you definitely come back home stronger."

The perfect combination

The first case of Coronavirus in the Czech Republic was actually at the Czech University of Life Sciences Prague. "Within a week, all classes were held on Zoom – and it all actually worked seamlessly, we were pleasantly surprised," says Korkmaz. "And of course it was nice to see Prague without all of the tourists, for a change."

It was some time ago that Selin Korkmaz decided to study "International Studies in Management" in Bielefeld. "At our careers week at school, a representative from HSBI gave a presentation about the study programme," she explains. "For me, it was the perfect combination of business, languages and different cultures. It looked like it would be much more varied than a straight – and stale – business administration degree. And it was."

↳ As a student intern at the Foreign Office, Selin Korkmaz gained practical experience about the subject of *leading at a distance*

"Experience is what matters"

Time and again, the course took her from the lecture theatre right into the thick of professional experience. At Miele, Selin Korkmaz developed a prototype website for an innovative new product. "It was my first practical experience with the topics of innovation and digitalisation," she says. "I enjoyed it so much." At Germany's Federal Foreign Office, she learned a great deal about leading at a distance and had some very interesting conversations with diplomats. "I even met Heiko Maas." And at Dr. Oetker, she conducted initial market analysis and growth potential analysis in the sales department and also created reports. Selin Korkmaz viewed these placements as being essential. "Good grades are not a guarantee for career success," she explains. "The experience that you gain over time – that's what matters. And this is the only way you can find out what you really want to go on to do."

Growing up between two cultures

Selin Korkmaz was essentially born into internationality. "My mother came to Germany from Turkey when she was four; the culture she passed on to me is more German. My father came to Germany comparatively late and represents a more traditional Turkish culture," she says. "I grew up with two cultures and we often visited family in Ankara. In any case, I actually only know Turkey as a tourist." At school, Korkmaz always tended to perceive her "otherness" as a negative thing. "By contrast, I am now incredibly thankful that I grew up bilingual," she says. "It makes it a lot easier for me to move between different cultures."

↦ Information

These are the three partner universities for the "International Studies in Management" study programme: Czech University of Life Sciences Prague (CULS), University of Cagliari (UNICA), Université Paris Est-Créteil (UPEC) in Paris. There are also double degree options available for other study programmes, in partnership with the Turkish-German University (TDU) in Istanbul.

Study programme: "International Studies in Management"
https://www.hsbi.de/studiengaenge/international-studies-in-management-bachelor

Selin Korkmaz also made use of this ability at Bielefeld's "Internationales Begegnungszentrum" (international community centre), where she helped teach English and Maths to the children of refugees. Back then, she wasn't even 18 years old. "And that was when I realised for the first time just how important intercultural communication skills are. And how helpless you feel if you can't make yourself understood."

Korkmaz, who is from Bielefeld, has always worked alongside her studies at school and university. "As a student assistant, I was always helping to organise events such as the annual summer school for international students," she reports. "As you would expect, this opportunity enabled me to get to know a number of people and form friendships, too."

For Korkmaz, juggling all of these different activities is more of a joy than a chore. "I am very organised and quite resilient," she says. "It's a feature that runs through my whole life. Full-time study, working two jobs at the same time, commuting all the time. I think I manage this chaos pretty well!"

Digitalisation and innovation

Selin Korkmaz is currently working on obtaining her master's degree in "Digital Business and Innovation Management" at FH Münster. Once again, the study programme is right up her street: varied and practical, covering lots of content and skills. "And since April I have been working on the Open Innovation City Bielefeld project," she says. "It is all about connecting important players within a region with one another. I am doing lots of research about new trends and developments – I'm finding it so interesting! And I am hopefully making a contribution to promoting a culture of innovation in Bielefeld."

Despite her internationality, Selin Korkmaz is very attached to the city where she was born and raised. "I can definitely imagine living and working abroad for a while," she says. "But I also just really like being in Bielefeld. I am someone who needs a strong anchor in life – and that's the place where my friends and family are."

The "International Studies in Management" study programme seeks to prepare students for professional environments that are highly international in nature. Students gain specialist business knowledge that is geared towards the international market. Due to the practical focus of the study programme, students can apply academic methods to specific problems. Meanwhile, they develop competencies in teamwork, communication, project management and in giving presentations. During the year abroad, HSBI students form a cohort together with students from the partner university. They then come to Bielefeld together in the third year.

A Healthy Work-Life Balance

Working in the healthcare profession can be incredibly satisfying because of the close interpersonal relationships. Prof. Dr. Michaela Brause, dean of the Faculty of Health, and Midwifery student Johanna Kurth both agree on this point. They also comment on the nursing crisis, work-life balance for the next generation and the difference between education and training.

↳ Johanna Kurth (left) is part of the second cohort on the Midwifery study programme at HSBI. After completing her German university entrance certificate in 2021, in the middle of the Covid-19 peak, the 20-year-old travelled all around Europe for one year. One of the things she reflected on during this time was which professional path to pursue. What led her to midwifery was a desire for theory and practice in equal measure, in addition to her fascination with medicine and people. The dean of her faculty, Prof. Dr. Michaela Brause, describes this passion for working with people as something that is "close to the heart" of everyone who works in the healthcare sector

In recent years, Coronavirus has been THE dominant topic. Here at the Faculty of Health, which trains healthcare professionals, the topic was all the more dominant. The nursing crisis has been a hot topic. Do you think it is likely that other important topics can now have some airtime again? If so, which topics should they be?

Prof. Dr. Michaela Brause: Problems such as overloaded capacity and staff shortages in the healthcare sector existed long before Coronavirus, but it wasn't until the pandemic that the general public became aware of these issues. It is quite right that there is critique about the precarious situation in nursing, but I would love it if more airtime could also be given to the positive aspects of the profession. Nursing is all about having direct contact with patients – an aspect that is close to the heart of everyone who works in this profession.

Ms Kurth, why did you choose to study midwifery? And how have you found your work terms so far?

Johanna Kurth: The opportunity to have lots of interaction with people was indeed one of the reasons why I chose midwifery. I have the huge privilege of helping people through very intimate, beautiful and sometimes also difficult situations. But in my day-to-day working life, I also notice the structural problems in the healthcare system. In our studies, we learn recommended courses of action, which are based on the latest scientific findings. On the job, I notice that there often isn't enough time to follow these recommendations. But of course I am still just at the beginning of my training and I'm excited to see the long-term changes that my generation will bring about in midwifery.

From your perspective, what is special about "Generation Next" and the current generation of students?

Johanna Kurth: Vocation and career aren't the top priority for people in my generation. For example, after I completed my Abitur, I decided to take a year out and travelled through Europe.

↳ The "Welcome Semester" initiative, which was organised by the International Office, supported students who had fled from Ukraine. The Faculty of Health was involved from the outset. The same is true of the Summer School at the "Evangelisches Klinikum Bethel" hospital, where refugee students learned about the German healthcare system

↱ Johanna Kurth is currently on a placement at a postnatal ward that is operated by her practice partner, Mühlenkreiskliniken, where she helps brand new parents in the days following the birth

And I didn't do it for my CV. I did it for my own personal development and to broaden my view of life. I am grateful that I had the opportunity to travel in this way. I am aware that the decision about how important work should be in everyday life is not just a question of attitude but also – predominantly – a question of privilege. Besides that, I also think that my generation takes great care to avoid discriminating against people. This begins with the language that is used. For example, in my day-to-day working life, I would like to ensure that I am not using the word "father" at the outset. After all, a pregnant woman can also be in a same-sex relationship, or the other biological parent might not be in the picture. I would like to show consideration for these differences in life circumstances.

Michaela Brause: When speaking to students, I have also noticed an increasing focus on having a healthy work-life balance. Of course, as a healthcare researcher, I am fully in favour of this! In a similar vein, I have also noticed a desire for relevance in terms of application. Students ask very intentionally about whether and why they will need certain elements of the course material in their future professional lives. On the one hand, I naturally welcome these questions. On the other hand, I always emphasise that our institution offers education and not just training. We also equip students to follow their own academic career pathways.

Do you have any hopes associated with the recent renaming of the university?

Johanna Kurth: I think it's great that people are considering these things and questioning the status quo. Words have associations, and we are often not even conscious of them. This applies to university names, too! Personally, I like the way that the addition of "and Arts" gives visibility to all areas of the university, such as Design and Architecture. And to my ears, the term "Fachhochschule" sounded a little old-fashioned and somehow less official than "Hochschule."

Michaela Brause: I am counted among those who take more of an unemotional stance to the renaming. In recent years, under the name "Fachhochschule Bielefeld" (Bielefeld University of Applied Sciences), the university has developed a good reputation as a training centre for our professions. But I do of course accept the decision and am giving it my backing.

The Faculty of Health has now been independent for two years. How is it going? What is the greatest challenge at the moment?

Michaela Brause: It's going well! Naturally, developing an entirely new faculty requires a lot of work and presents many challenges. To start with, we had to re-recruit for all of the committees. But we succeeded in doing so. I just had to smirk whenever I read that when selecting people for committees, we needed to ensure that women made up at least 50% – in our faculty, the problem tends to be in the other direction! As was previously the case, the academisation of nursing presents a challenge. If, as is stipulated, we are to have academically trained nurses accounting for 10 to 20 percent of the workforce, we need to work together to improve the conditions. We are thankful for the positive collaborative relationships with our practice partners, who provide students with financial support in the form of scholarships, for example.

Faculty of Health

The Faculty of Health currently has around 700 students and there is a high degree of commitment among students and teaching staff alike. The focus of the course offer is on academised nursing and midwifery training, as well as teacher training courses for healthcare professions. The faculty's part-time certificates offer additional qualifications that are up-to-date and academically grounded. Topics include fields of action for vocational teachers in the health sector, management and development of health-sector schools and digitalisation in health. By offering these courses, the faculty makes an important contribution to healthcare provision in the region.

TÜV-Certified Quality

While they are still studying, HSBI students in the Faculty of Health can train to be a TÜV-certified quality management representative. Janina Brand has acquired this additional qualification – and improved her career prospects.

↳ HSBI student Janina Brand and Prof. Dr. Heiko Burchert are delighted about the recently confirmed partnership with TÜV Rheinland. The quality management representative certification is an additional qualification that significantly broadens students' opportunities on the job market

It had been more of an unofficial collaboration but in 2022, it was made official. The testing and certification organisation TÜV Rheinland and HSBI's Faculty of Health have signed a cooperation agreement that enables students to complete the TÜV assessment for being a certified quality management representative – while they are still studying. HSBI student Janina Brand is one of the students who has seized the opportunity and obtained the sought-after certification. She has in her hands a valuable additional qualification that significantly broadens the scope of her career opportunities.

Certified quality management

Quality management (QM) has been a familiar phrase in the area of healthcare for some time now. "Facilities offering rehabilitation care already have to prove that there is a certified QM system in place before they can receive any patients from statutory health insurance and pension schemes," says Prof. Dr. Heiko Burchert. He teaches about the economic and legal foundations of the healthcare system at the Faculty of Health and at Bielefeld School of Business. Currently, hospitals still only need to prove that they have a QM system – there is no need for certification. The legal requirements at nursing facilities are even lower. "But that will change very soon," Burchert explains. "Sooner or later, all healthcare facilities will have to prove that they have a certified quality management system."

A competitive advantage for institutions and students

Burchert welcomes the upcoming changes. "A QM system is the only thing that can ensure there is standardisation – of important procedures and processes, for example," he explains. "It makes them easier to manage, adds transparency and helps to prevent mistakes from happening. Furthermore, an additional certification ensures that the QM system is fulfilling all of the current legal and professional standards, so it essentially ensures that the rehabilitation clinic or hospital is keeping up with the latest standards." There are more advantages, too. "A certified QM system not only improves the quality of an institution but it can also be a competitive advantage," continues Burchert. This development opens up opportunities for students, too. Burchert adds that the introduction and implementation of these kinds of systems calls for "experts who know about the certification process." Normally, employees would need to be released from their usual roles for two weeks and sent on an expensive training course before they were able to undergo the assessment to qualify as a quality management representative – and then develop and manage a QM system.

Regular opportunities for certification

For some years now, as part of his “Quality Management” module, Burchert has been offering students the opportunity to undertake intensive preparation and then sit the TÜV Rheinland assessment, right here at HSBI. “Due to the cooperation agreement that was recently signed, this opportunity is now also secured by a contract and it is guaranteed to be available regularly,” he says. During four intensive afternoon sessions, he helps students to prepare for the assessment, which is a two-hour written test issued by TÜV Rheinland. There is also an independent study element with a participant’s handbook. Janina Brand wasn’t put off by the additional workload alongside her usual studies. “For me, the TÜV certification is a real bonus – it’s worth the effort.” Brand is a registered geriatric nurse who is studying on the “Health” bachelor’s degree programme. She has extensive professional experience in nursing services and in care home management. QM had already been part of her day-to-day work, particularly where she had held leadership responsibilities. Nonetheless, she didn’t find the exam straightforward. “It was really quite tricky! And I learned a lot from the content.”

“Improving quality, shrinking costs!”

The TÜV assessment relates to QM in general and does not relate specifically to the healthcare sector. It is based on ISO standards that stipulate what should be considered when standardising processes and outline how things should be documented. “The time spent preparing for the assessment mainly helped to further increase our awareness of quality management,” says Brand. In her view, QM systems are particularly important in the area of healthcare: “They ensure that there is more professionalism in the area of nursing. Where there is an attitude of ‘We’ve always done it this way,’ new professional findings are ignored and the quality of care suffers. But where people are working with a QM system, especially with a certified one, quality standards and transparency requirements are much harder to ignore.” For Brand, this also includes optimising processes and standardising documentation, e.g. patient files. She believes that one aspect of high quality is everyone knowing where different kinds of information can be found. “That makes things faster and safer in the event of an emergency. And as well as improving quality, it also helps to save on costs.”

↦ Information

Practical trainer accreditation
As well as the additional training to become a TÜV-certified quality management representative, the Faculty of Health also offers a certificate of proficiency as a practical trainer. This further training means that while students are still completing their studies, they can qualify to work as a certified practical trainer in training and nursing facilities. The prerequisites are that students have completed a vocational training programme in nursing and have already completed certain modules in their study programme.

For this reason, Janina Brand will soon be implementing a QM system in her professional life. Alongside her studies, she is developing a day-care centre on behalf of a nursing service provider based in Bielefeld. It is envisaged that she will also go on to lead the centre. “Having passed the TÜV assessment, I already have the right qualification for future certification processes.” And that is good news for her employer, too.

↱ Before she has completed her studies, Janina Brand already has her TÜV certificate, which is what she will need for future certification processes. These processes will play an increasingly important role in her future work in the field of day care

The Academisation of Healthcare is Essential

In order to tackle the increasingly complex tasks at intensive care units, it is essential that caregivers have academic training and that knowledge from the field of nursing science is transferred. These were the outcomes of a stocktaking exercise undertaken by HSBI researchers and employees at Centre for Heart and Diabetes in North Rhine-Westphalia.

↳ The Centre for Heart and Diabetes in North Rhine-Westphalia, an interdisciplinary university hospital in Bad Oeynhausen, has one of Germany's largest intensive care wards for cardiology

Patients being artificially ventilated are seriously ill. They are often extremely vulnerable, too. In these patients, germs can quickly colonise the oral cavity and these intruders can then enter the lungs via the ventilator machine. Once in the lungs, it is not uncommon for them to cause dangerous inflammation. Medical professionals refer to this as "ventilator-associated pneumonia" (VAP) and the consequences are fatal. Many of those affected do not die of the illness they were being treated for; instead, the cause of death is the pneumonia that they developed while undergoing artificial ventilation. In any case, treating a patient with VAP is difficult, requires intensive support and is expensive. An oral hygiene process that is based on recent scientific findings does help to tackle this problem. Numerous studies have shown this to be the case. Yet according to a recent survey, nine out of ten intensive care nurses do not use a toothbrush, for example, when caring for intubated patients.[1] The reason for this? At many intensive care units, the message about the importance of oral care for patients who are being ventilated has not "got through" yet. There are no formalised processes, and the effects of time pressure and stress follow their usual course.

Science-informed nursing

"Of course it is not just about brushing teeth," Christian Siegling clarifies. He is Director of Nursing at the Centre for Heart and Diabetes in North Rhine-Westphalia (HDZ NRW) in Bad Oeynhausen, which is part of Ruhr University Bochum. "Good oral hygiene practices for patients receiving artificial ventilation include an individual assessment, the resulting action plan, the specialised and personalised implementation of the plan and the evaluation of what has been achieved." These are time-consuming tasks that need to be learned and practised. But the effort is worthwhile. After all, the best way to ensure that the mouth of a defenceless patient does not become home to dangerous pathogens is by ensuring that the oral mucosa is intact and moist with no coating and that lips are undamaged, gums are healthy and teeth are clean.

"The topic of oral hygiene is just one example of how nursing practices that are informed by the latest scientific findings can significantly increase the recovery chances of sick patients," says Christian Siegling. "This is why a work group was created at the HDZ NRW intensive care units. The group systematically integrates scientific findings into clinical practice in order to

reduce the number of VAP cases." There are numerous similar examples that Siegling could name. "The rapid integration of findings from the field of nursing science is now part of the culture at HDZ NRW," the Director of Nursing explains.

HSBI provides important stimuli

One of the sources of these important stimuli is the Faculty of Health at HSBI. In addition to the university's research activities, the main way it impacts the hospital is through the numerous bachelor's, master's and certificate courses it offers. "The caregivers we train are exposed to a great deal of academic research during their vocational training. For this reason, they find it easier to apply the knowledge they have learned – and the associated methods – in clinical practice," explains Prof. Dr. Ismail Özlü. Nursing Science lecturer Özlü points out that there is a direct relationship between patient mortality rates and the academisation of caregiving staff. "If ten percent of the caregiving staff have a bachelor's degree, mortality rates fall by seven percent. This has been shown by numerous studies." [2]

Prof. Dr. Ismail Özlü visited HDZ with research associate and doctoral candidate Severin Pietsch. The research duo were keen to speak with staff at the centre about trends in intensive care and the role that academised nursing training has to play. "We know that specialised areas such as intensive care provision, and the scientific findings in this area, need to be systematically integrated into our teaching. After all, the need in clinical practice is greater than ever," says Severin Pietsch

85,000 patients requiring artificial ventilation

Artificial ventilation is one example of this great need. In 2006, there were "only" around 25,000 patients requiring artificial ventilation. Today, the figure is over 85,000. One of the causes is the Covid-19 pandemic but there are other reasons, too. "Putting Coronavirus to one side, on our ward we are now dealing with more older people, who often have complex symptoms," reports Denis Beyer, who manages the intensive care ward E.01 at HDZ. "To use broad brushstrokes, our typical patient 20 years ago was a 60-year-old who was given bypass surgery and was soon ready to be discharged. Today, demographic changes and medical advances mean that the people who come to us are usually well over 70 and have medical issues in addition to their heart condition – such as being severely overweight and suffering from diabetes and high blood pressure." Obstructive pulmonary diseases, postoperative delirium and general frailty also mean that it is becoming increasingly difficult to provide intensive care for people who are more advanced in age.

↳ HSBI alumna Sarah Lohmeier is part of a work group for improving processes in the intensive care ward

↳ Severin Pietsch, research associate and doctoral candidate at HSBI

↳ Prof. Dr. Ismail Özlü, professor of Nursing Science

↳ Christian Siegling, Director of Nursing at HDZ NRW

"As a result of increasingly severe cases and a growing range of medical and technological opportunities, there is a need for more – and more highly qualified – caregiving staff," says Siegling.

The academisation of nursing – Germany at the back of the pack

According to Prof. Özlü, the demand for these caregivers is all too often left unfulfilled in Germany. "Back in 2012, the German Council of Science and Humanities recommended that 10–20 percent of caregivers should have completed academic training, so as to ensure there is a modern standard of care," he explains. "The actual rate, however, is only three percent. And if you account for all of those who are working in teaching, training and management positions, the figure is below one percent. This state of affairs is completely unacceptable and means that we are at the back of the pack in the EU."[3]

Despite this, HDZ NRW has successfully managed to have a mixture of caregivers with traditional training and those with academic training on its intensive care units. On ward E.01, there are 13 caregivers who have a university degree and the scientific aspect of care is always considered in day-to-day nursing. On a nationwide level, however, this hospital is something of an exception. There are still simply too few nursing students, even at HDZ NRW. This is caused by various things, the first of which is the fact that in the eyes of many, the caring professions do not have a good image. "Yes, caregivers were applauded as heroes during the pandemic," ward manager Beyer recalls. "But not many people actually want to work as a nurse. Not many people know how demanding yet satisfying the work can be. People only ever hear about the nursing crisis and about staff being overworked. That isn't particularly helpful for the image of the profession!"

A very satisfying job, despite "difficult" conditions

Another disadvantage of working in this field is the comparatively low pay. "One investigation found that on the basis of the skills obtained, nurses with academic training should be paid the same starting salary as electrical engineers," Prof. Özlü reports. "Generally, however, that is a far cry from the reality." Moreover, the problem of low pay is relevant from the very start of a nursing degree. "Until recently, nursing students were at least still being paid a tariff-based salary, in the same way as nursing apprentices," explains Severin Pietsch. "This option has now been removed, which has had negative consequences on applicant numbers for nursing degrees." The Director of Nursing at HDZ also believes it is a mistake to think that nursing students could have a part-time job – like other students – alongside the weeks spent working at healthcare facilities and their theoretical studies at university. "Our hospital, at least, is counteracting this systemic error by offering students employment that not only fulfils the requirements of their study programmes but is also paid. But really, what is desperately needed is fundamental regulatory reform for all nursing students."

A high-tech medical environment

"It would be worthwhile as a way of introducing evidence-based knowledge into day-to-day professional practice," says Sarah Lohmeier. She graduated from her dual Nursing degree at HSBI in 2020. Since October 2022, she has been a team leader and a member of a work group that focuses on improving processes on the E.01 intensive care ward. In her experience, caring for critically ill patients while taking into account their individual needs is particularly demanding. For Lohmeier, it is extremely important to convey that in the context of high-tech medicine, the field of nursing can also offer scientific approaches to treatment. On her ward, some of the people being cared for are reliant on extracorporal membrane oxygenation (ECMO) and can only take in oxygen via a heart-lung machine. There are also patients whose hearts require support from a blood pump following a cardiogenic shock. And patients with severe heart failure, who require emergency medical treatment involving an intra-aortic balloon pump (IABP). "The technical requirements in nursing are increasing, which also increases the requirements for how a patient is typically treated," states Sarah Lohmeier. "There is a need for specialisation and for clear, complementary division of tasks." Lisa Peper, who graduated from her bachelor's degree in Nursing at HSBI in 2022, is in agreement. "During my studies, I discovered the importance of critically scrutinising the methods and information that I was learning – and that if in doubt, new solutions need to be developed. I have already experienced how the knowledge of experienced colleagues can be supplemented by evidence-based teaching, and I have seen the positive impact this has on the quality of care."

But there is scope for making the transfer of knowledge a more seamless process. "Many hospitals are not set up for integrating the knowledge of academically trained caregivers into clinical practice, or for giving these caregivers more responsibility or opportunities for promotion," Severin Pietsch reports. "This presents a degree of risk that these graduates will become frustrated." For example, HSBI student Lisa Peper faced difficulties when trying to find a hospital where she could undertake her bachelor thesis project.

Siegling, Director of Nursing at HDZ, points out that there is room for improvement on both sides: "Integrating more evidence-based findings into clinical practice isn't just a matter of hospitals being more open to the idea. It is also necessary for universities to focus more precisely on the problems being experienced in clinical practice. Academisation is not an end in itself."

HSBI and HDZ NRW are keen to continue the dialogue in this respect – Prof. Özlü and the Director of Nursing went on to put a date in the diary for their next meeting. Especially since it is a race against time to develop our own solutions and at the same time to show lawmakers where they urgently need to make changes. The baby boomer generation is just reaching retirement age. Then, many caregivers will leave the workforce and will not be available to work in hospitals. At the same time, the number of people who will be needing nursing services will significantly increase once more.

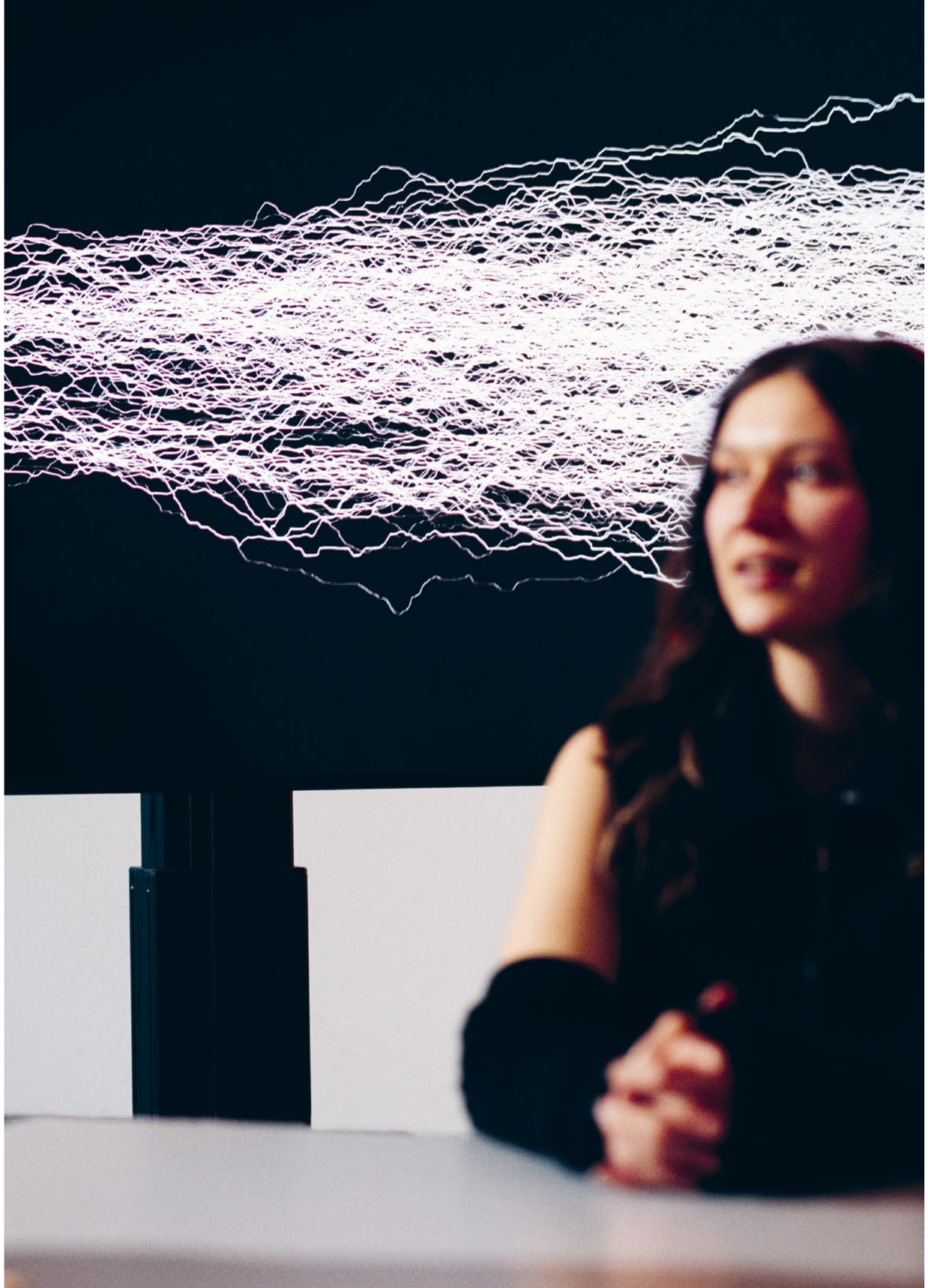
1. Khasanah, Isti & Sae-Sia, Wipa & Damkliang, Jintana. (2019). The Effectiveness of Oral Care Guideline Implementation on Oral Health Status in Critically Ill Patients. SAGE Open Nursing. P. 5

2. Aiken LH, Sloane D, Griffiths P, Rafferty AM, Bruyneel L, McHugh, M; Maier CB, Moreno-Casbas T, Ball JE, Ausserhofer A, Sermeus W, the RN4CAST Consortium (2017) Nursing skill mix in European hospitals: cross-sectional study of the association with mortality, patient ratings, and quality of care. BMJ Qual Saf 26(7):559–568; Darmann-Finck, I., Reuschenbach, B. (2018). Qualität und Qualifikation: Schwerpunkt Akademisierung der Pflege. [Quality and Qualification: Focusing on the Academisation of Nursing] In: Jacobs, K., Kuhlmey, A., Greß, S., Klauber, J., Schwinger, A. (eds) Pflege-Report 2018. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-56822-4_15)

3. German Council of Science and Humanities (2022): HQGplus-Studie zu Hochschulischen Qualifikation für das Gesundheitssystem. Quantitative und qualitative Erhebungen der Situation in Studium, Lehre, Forschung und Versorgung. [HQGplus study on university qualification for the healthcare system. Quantitative and qualitative surveys of the situation in study programmes, teaching, research and care] Cologne. P. 9

↳ Intensive care wards are governed by high-tech medicine, which makes nursing increasingly challenging. This means that the transfer of knowledge from research to clinical practice is all the more important

Radical yet Tender



What do they think about the expectations being placed on the next generation? What are the opportunities and limitations of AI in the realm of design? What are their personal hopes? Dean of the Faculty of Design and Art, Prof. Dirk Fütterer, asked these questions of four students at the faculty. A distilled summary: those who want to effect lasting changes will first need to change their mindset.

↳ Ronja Hempel, a master's student on the Fashion course, pictured with Carina Cornelia Thomas, a master's student on the Communication Design course. Bottom right: Aimilia Athanasia Theofilopoulos, a bachelor's student specialising in Photography and Visual Media. Clearly visible on the next page: Prof. Dirk Fütterer, dean of the Faculty of Design and a Typography lecturer, as well as Katharina Lübeck, who is studying Digital Media and Experiment in her Design master's programme. One of her works, "Ordentliches Chaos" [Orderly Chaos], can be seen in the background

Prof. Dirk Fütterer: The climate crisis, pandemics, migration – the next generation seems to be facing countless challenges. Intuitively, what posture do you think there is in the face of this? And what do you task yourselves with?

Katharina Lübeck: Sustainability and species protection have always been important to me because of my parents' influence. Previously it has been taken as a given that companies need to grow. But growth is finite because resources are finite. We have reached a turning point, where economic growth can no longer be the top priority.

Ronja Hempel: From birth, our generation has been told that we really need to be thinking about the future a lot. We have to start grappling with big topics such as climate change at a very young age.

Carina Cornelia Thomas: In addition to the posture of expecting to change something, I sense that there is a great degree of cohesion between millennials, post-millennials and those who are a little older – and I belong to that group, who were young people when smart phones and social media were in their infancy. We need to prepare a way for the generation that comes after us. At the moment, it seems that a decentralisation of structures is taking place. Instead of working at a company for a boss, we are used to working in networks. This means that more professional opportunities are open to us, too.

Aimilia Athanasia Theofilopoulos: Today's first-year students work much more with mixed media, although for me the focus is more on pure photography. It might seem that the next generation is facing a particularly great task of bringing about change, but we need to remember that every previous generation has fought for something. They simply fought for different things. Perhaps it appears different at the moment because the tasks are so great.

Dirk Fütterer: Discussions about the next generation have a strong focus on changes in style – the way we live, the way we do politics. What role does design play in this? Would you be able to – and want to – use design to engage with the challenges of the times?

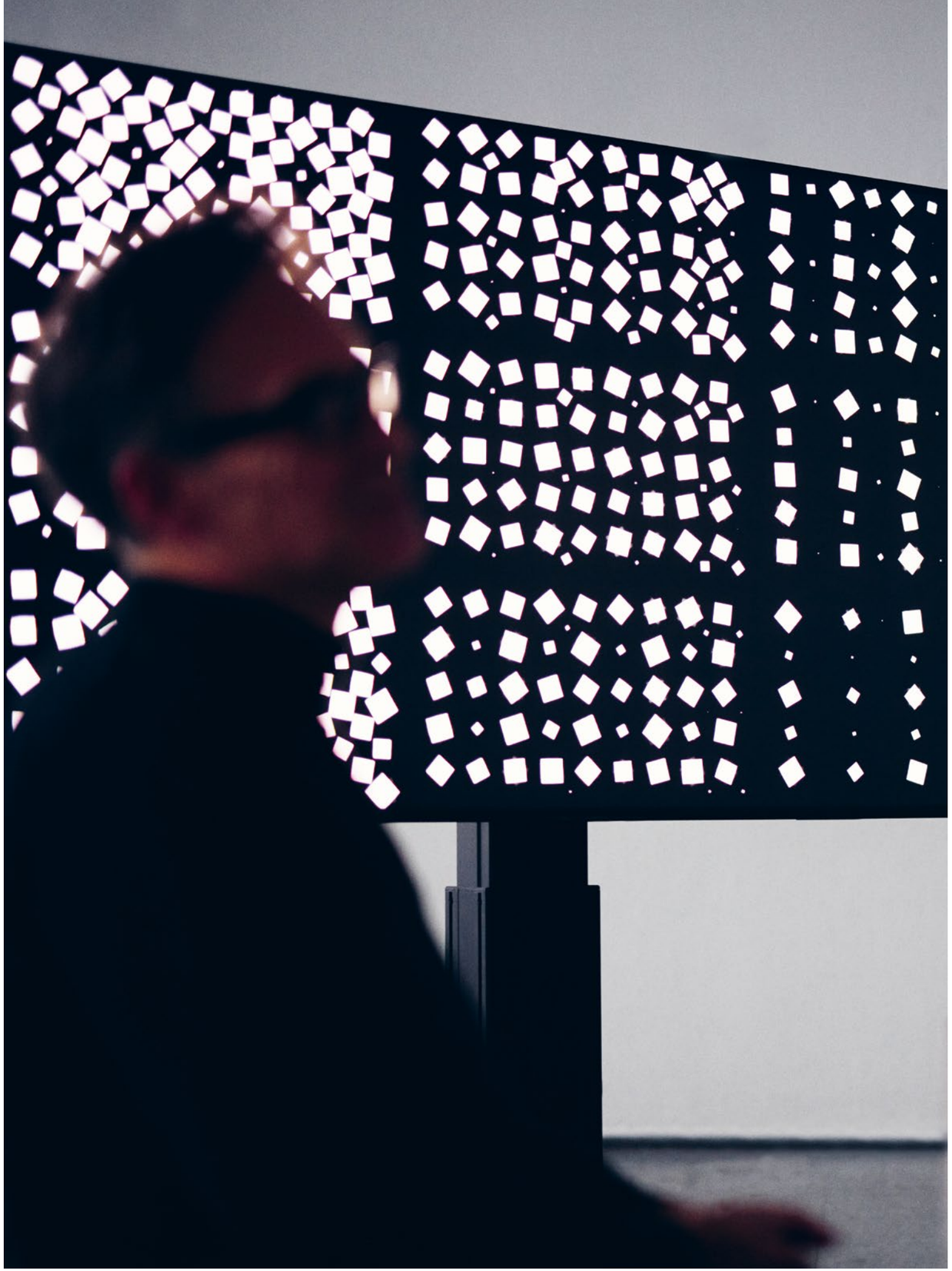
Aimilia Athanasia Theofilopoulos: For me, it is a privilege to be able to study photography. From this privilege flows the obligation to take the topics that I address to the wider public, in the form of exhibitions, for instance. So I don't just want to work in order to create something beautiful or to earn money.

Katharina Lübeck: Design and responsibility go hand in hand. I can use design to send messages, shape the way people think and change the way people act. In this way, as the next generation, we can help to steer our society in terms of sustainability.

Ronja Hempel: We live in a throwaway society. And there are also designers who create products that fit with this mentality. And in purely economic terms, it does work. But it is not sustainable. As a fashion design student, when I go shopping I see fewer and fewer items of clothing that I want to buy because the quality is too poor. Our products should be made to last. We need to make people aware of this.

Carina Cornelia Thomas: Design is greatly influenced by technology – VR, AR and numerous devices. The rate of communication in our lives is high, yet in our generation, we are relatively isolated. It is all the more important to consider how humanity and authentic relationships can be used in order to strengthen design. How we can use fewer screens, or use them differently. To do this, we need to have an analytical view of design, and of different media and the way they are used.

↳ Discussing the challenges facing "Generation Next", risk-taking among women and being radical



Dirk Fütterer: In our faculty, there are significantly more women than men. The makeup of this group discussion is evidence in itself! To what extent is work in the field of design characterised by gender as well?

Katharina Lübeck: Nowadays, creative businesses are very permeable in relation to gender. But undoubtedly, it tends to be middle-aged white men who are working on the client side. And they prefer their agency counterparts to be like themselves. The self-confidence of women would continue to grow if the faculty were to implement even more real-life projects where students can prove themselves.

Carina Cornelia Thomas: I am glad that a lot has changed in this field. Anyone who has ever seen an old Hitchcock film will see how much the stereotypical roles have changed since the 1950s. And I am hopeful that this process will continue. At the moment, women are either a copy of what is typical for a man, or they stand in complete opposition. Hopefully in the future, we will be able to build our own image of what it means to be a woman.

Ronja Hempel: If you want to bring about societal change, you have to overdo it to start with. I think it's good that in some countries, companies are obliged to have minimum quotas for both men and women. Maybe at some point, these quotas will no longer be necessary. As women, we need to overcome psychological barriers and communicate the value of our work more clearly. Previously, women have been more reserved when it comes to negotiating pay. Universities should help to boost women's confidence in the area of taking risks.

Aimilia Athanasia Theofilopoulos: In the workplace, women are always reminded that they are women. And they themselves are always aware of this fact. In an ideal future, we would simply be employed as people. We need to break out of these stereotypes ourselves as well.

Dirk Fütterer: In 2007, the iPhone paved the way for a cultural revolution. One and a half decades later, digitalisation is bringing about more new and radical opportunities. In your opinion, what is the next big thing?

Katharina Lübeck: As a result of AI, jobs will definitely be lost in some sectors – and created in other sectors, too. Tools such as ChatGPT, which can write entire essays from a few key words, or Dall-E 2, which can "draw" pictures, are already doing incredible things. But Dall-E has been trained on image files from the internet without the permission of the image rightholders. Society will have a lot to wrestle with.

Carina Cornelia Thomas: Although Web2 is currently largely shaped by companies such as Meta, it could be that with Web3, it will once again be possible to create individual algorithms and gain influence. Alongside the advance in digitalisation, there is also a new arts and crafts movement, involving sewing, knitting and all sorts of crafting. Our brain is stimulated in a very different way when we create something with our hands. What's more, even just the scarcity of resources will mean that it is increasingly important for goods to be repairable, reusable and suitable for subsequent use.

Ronja Hempel: Contradictory tendencies such as the mantra of "Faster, Higher, Stronger" and the trend of "Quiet Quitting" could fuel each other and develop entrenched extremes. Changes and incidents will present themselves at an even faster pace. At some point, we will have run out of time and will need to take decisive action. We need to change our mindset so that we can lay claim to a different kind of life.

Aimilia Athanasia Theofilopoulos: We need to be radical in the things we do. But at the same time we need to be tender – with ourselves and our surroundings. Despite AI, we, as humans, will need to make the key decisions. It is the only way that we will be able to remodel our society and environment. This is another reason why it would make sense to discuss current affairs more at university. This will enable us to check our view of our design work by asking, does what we are doing here make sense or not?

Faculty of Design and Art

The Faculty of Design and Art at HSBI offers a broad spectrum of design disciplines. There are four courses that can be pursued in depth at bachelor's and master's level: "Digital Media and Experiment," "Photography and Visual Media," "Communication Design" and "Fashion." In this inspiring context, students work on projects that address topics from society, art and culture and use their own ideas and visionary concepts to translate them into expertly implemented contemporary designs. Aided by the artistic and academic work that they complete in the interdisciplinary modules, students are empowered to develop their own unique approach as a designer. Each semester, the work created by the students from the four courses is displayed in a three-day exhibition. The exhibition has its own regularly updated website, which also has an archive function. https://werkschau.gestaltung-bielefeld.de

↘108

the books are alright

In the age of digital, does the analogue book still have a future with young people? In October, HSBI's Institute of Book Design (IFB) organised a symposium entitled "the books are alright" in order to explore this question.

As part of the "the books are alright" symposium, there were seven inspiring talks, which considered and discussed the opportunities and options for the analogue book in a digital context. For the team of students who organised the event, the key areas were inspiration, discussion and tactile experience. During the preparations for the event, much time was spent discussing the mood among the students. Communication Design student Lars Vieth, who led the team that organised the symposium, offers this summary: "Intoxicated by the abundance of information, we stagger through our daily lives as if we had lost our senses. We look for order in the chaos and stumble across the book. And when we grasp this artefact, it grips us back."

Print as a safe haven

"Some years ago," adds Prof. Dirk Fütterer, dean of the Faculty of Design and Art and head of the IFB, "we spent a lot of time asking ourselves whether the analogue book and print media would still have a future in the age of digital. During the Coronavirus semesters, my teaching colleagues and I found that there was a significantly higher demand for analogue materials, and that the tactile experience was being positively celebrated. Print is alive and well, and also seems to be a helpful tool for slowing down."

Competition for young talent

At the symposium, the "Stiftung Buchkunst," a foundation that promotes exemplary book design, was represented in the Faculty of Design and Art library with its travelling "Best German Book Design" exhibition and its "Sponsorship Prize for Young Book Design." Furthermore, the IFB presented its own competition for first book designs, which is intended to support young designers. For the first time, students and graduates from HSBI and other universities had the opportunity to put forward their book and magazine projects – as well as thesis projects – as competition entries.

↦ Information

Institute of Book Design
https://institut-buchgestaltung.de/

↘110

Barracks, church, open air

Instead of exhibiting at a museum, students on the Photography and Visual Media course were able to present their thesis projects at a range of different and unusual locations in 2022.

There is a lot going on at the Rochdale Barracks site in Bielefeld. In summer of 2022, the doors of the former barracks were opened for the "TRANSURBAN Residency" event. Together with HSBI, the team from TRANSURBAN and the Rome-based architecture collective "orizzontale" presented a varied cultural programme featuring concerts, readings, creative workshops and exhibitions. The exhibitors included Photography students from HSBI, who displayed their thesis projects. The unusual aspect was that the images were printed on huge sheets and adhered to the windows of the building – some of which were several metres high. The project was overseen by Prof. Roman Bezjak.

Numen in a Minden church

In an interdisciplinary project led by Prof. Emanuel Raab and Prof. Dr. Kirsten Wagner, photography students explored the idea of holy and profane spaces in photography. The outcomes were displayed at an exhibition entitled "Numen. Fotografische und mediale Bestimmungen" [Numen. Photographic and media provisions] at the St Martini church in Minden. The photographic and media works displayed at the exhibition explored locations and spaces where numinous experiences are made today. They include river swimming pools, motorway chapels, designated quiet rooms and the spaces of the human body. The exhibits also called into question visible reality and addressed aspects of fate and divination. The exhibition was curated by HSBI students Patrick Pollmeier and Janosch Boerckel. The photographers and video artists whose works were displayed were Janosch Boerckel, Franziska Bulgrin, Dana Hütz, Patrick Pollmeier, Mailine Reicke, Katharina Schrader, Leif Stohlmann and Susan Wright.

Cycling through culture

In September, in partnership with Bielefeld's office for culture, there was an open air exhibition as part of the "RadKulTour" event, which featured ten photographs by HSBI students and teaching staff. The exhibition was located among the trees in the green area at the bottom of Lampingstrasse. At this cultural "tour" event, there were stations displaying work by over 70 artists from Bielefeld, which guests could visit either by bike or on foot. The exhibition was organised by photography professor Katharina Bosse and featured her own works as well as photographs by Annette Brücker, Philip Fröhlich, Johannes Hüffmeier, Jennifer Janowski, Mary Mäntynen, Dietmar Otto, Maik Schneiker, Karla Schradi and Leif Stohlmann.

↘112

Haute Couture in Bielefeld and Berlin

Fashion is communication and identity. It shows the body in a different way. It is simultaneously a substance, a shell and a statement. HSBI offers a study programme that covers all aspects of the world of fashion – from the initial idea to the final collection. HSBI is the only public institution in North Rhine-Westphalia that offers a fashion course. Fashion shows in Bielefeld and Berlin provided a glimpse into the collections developed by the students.

Fashion in a public space

The models are wearing shrill neon colours, oversized pullovers in natural hues, striking checked patterns and modern streetwear. Elegant yet purposeful in the glorious sunshine, they meander through the bustling city centre of Bielefeld, showcasing the collections designed by fashion students and alumni. They pass shops, cafes and numerous surprised onlookers. It is the second time that students have turned Bielefeld city centre into a giant catwalk for the "Tour de la Mode" event. The work presented by nearly 40 designers, which includes 12 graduation collections, also uses the medium of textiles to address relevant social questions. In 2021, in partnership with the art association "Kunstverein Bielefeld," the Faculty of Design and Art took its traditional fashion show onto the streets of Bielefeld – surrounded by normal, everyday life. The initiative was met with great enthusiasm from the general public.

Neo.Fashion in Berlin

In September, five fashion graduates from HSBI made it to the "big catwalk" in Berlin. As part of the activities of the Neo.Fashion network, graduates from all over Germany contributed to 14 different fashion shows at Berlin Fashion Week. Around 80 graduates from ten universities offered hybrid presentations of their collections. HSBI participated in the "Collective Graduate Show," in cooperation with the fashion design department at HAW Hamburg. Graduate Sandra Eden also represented HSBI at the "Best Graduates' Show," which features one nominated thesis project from each university. The HSBI graduates who participated were Sandra Eden, Ronja Hempel, Jutta Meisen, Marie Prochatzki and Elena Richter.

↘114

Sharing a platform with the big names

Discussing the future of work using a medium that, in itself, is part of this future – this was the ambitious approach taken by the "Perpetuum Mobile" exhibition, which was displayed at the "Ziegelei Lage" industrial museum in March. The exhibition was part of the media arts festival entitled

"FUTUR 21 – kunst industrie kultur" [FUTURE 21 – art industry culture], where 16 industrial museums throughout North Rhine-Westphalia presented digital artworks, light installations and interactive games. The star-studded festival featured numerous works from well-known artists. It also showcased pieces by 34 students from the Digital Media and Experiment (DMX) course, who essentially shared a platform with the big names on the scene. "Our students' pieces addressed a cycle of dependencies," explains Claudia Rohrmoser, a professor of Motion Design. "What impact do our actions in the digital world have on our reality? For example, if we have an increasingly fragmented, digital world of work and struggle to retain the big picture of the meaning and context of what we do, what happens to us from a health and social perspective?"

The future of work

Through the use of digital media, the brick factory where the exhibition took place was also brought into the discussion concerning the future of work in the era of digital transformation. The show explored the interface between the physical, real-life locations and digitally-created spaces. The students' work examined issues such as the quantification of humans as workers in the digital future, the monotony of digital workflows and sustainability in the digital workplace.

Hybrid installations

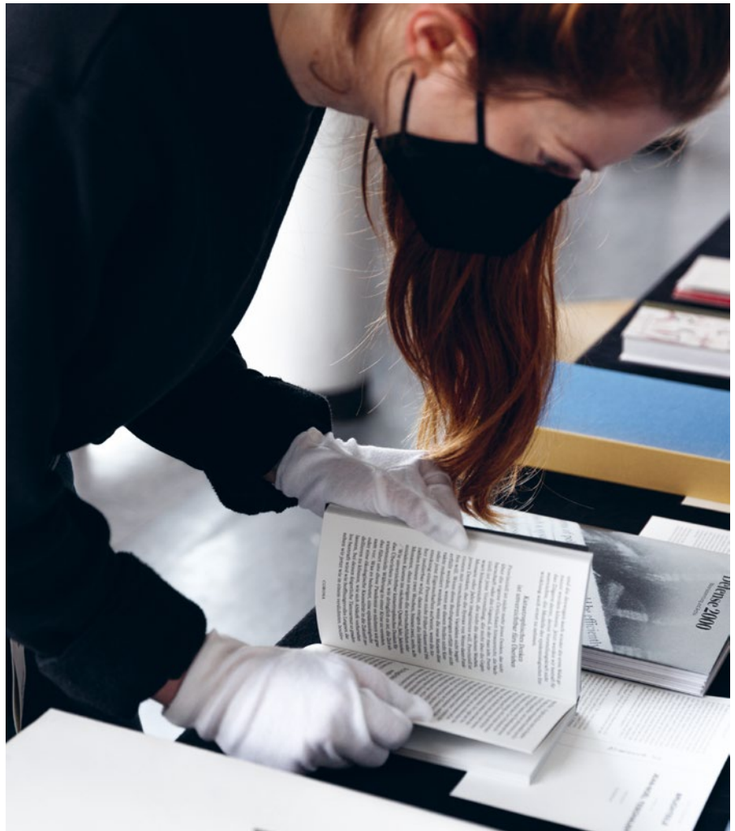
One of the challenges of the exhibition was the fact that it was possible to install exhibits anywhere on the museum premises. In the end, the students' design work resulted in an interactive, experiential obstacle course through the site. Even the start of the tour, at the visitor centre, was a digital concept. Visitors saw rows and rows of monitors with various animations, which they had the opportunity to control to some extent using tablets.

↦ Information

DMX Course
https://experimentalmedia.digital

↳ During and after the symposium, the "Stiftung Buchkunst," a foundation that promotes exemplary book design, was represented in the Faculty of Design and Art library with its travelling "Best German Book Design" exhibition and its "Sponsorship Prize for Young Book Design"

↦ During the Coronavirus semesters, there was significantly higher student demand for analogue materials. Print is alive and well, and seems to be both a safe haven and a helpful tool for slowing down



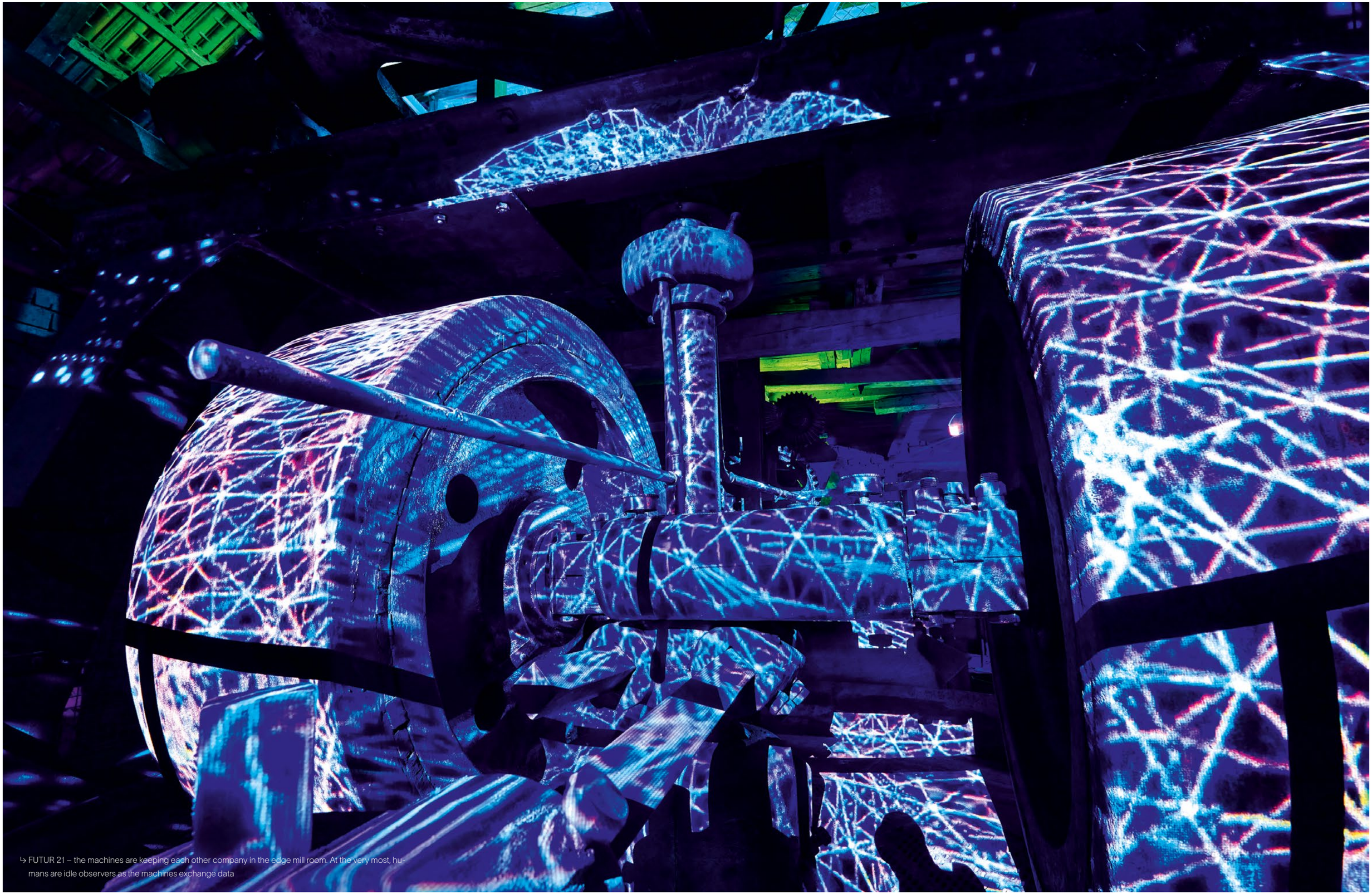
↦ Philip Fröhlich's photograph "The Colours" features a former British soldier at the Rochdale site; the soldier had been stationed in Germany and now lives here. The images were exhibited at the barracks site

↱ At the Rochdale Barracks site, Student Miriam Juschkat photographed local artists with objects relating to their artistic creations in order to highlight the need for space for culture and the arts in Bielefeld

↳ The open air photography exhibition at the Bielefeld "RadKulTour" festival included a photo from the collection entitled "A Portrait of the Artist as a Young Mother" by Prof. Katharina Bosse

↳ A glimpse of some of the student collections at the Tour de la Mode 2022

↱ For the second time, fashion students turned Bielefeld city centre into a giant catwalk, where they showcased their work at the 2022 "Tour de la Mode" event



↳ FUTUR 21 – the machines are keeping each other company in the edge mill room. At the very most, humans are idle observers as the machines exchange data

↳ Inside the circular kiln at the industrial museum, visitors are encompassed by an atmosphere of mist, projections and light

↱ The interactive installations question the role of humans in tomorrow's workplace

Timeline

1

Social Sciences

Successful German–Canadian teaching collaboration

↳ 7 Jan

Students from the Faculty of Social Sciences and from the College of Health Sciences at the University of Alberta in Canada acquire valuable experience of intercultural and inter-professional collaboration.

International Office

The *StayInOWL* project for international students ↳ 18 Jan

Insufficient language proficiency, a lack of contact with locals, isolation and loneliness – these can all be additional barriers that international students have to overcome. A new supporting programme enables students at HSBI to boost their language and social skills. The aim is to help them integrate into the OWL region and, in the medium term, to find work here.

Engineering

Electricity generation and usage levels fluctuate – HSBI and Bielefeld University use AI and edge computing to find a solution ↳ 13 Jan

There are more and more solar panels on roofs – and more and more e-vehicles to charge. These fluctuations in electricity generation and consumption put pressure on the power grid. The international research project *"AI4DG,"* which was initiated by HSBI, is now investigating how these fluctuations can be balanced out locally. The idea is to use distributed artificial intelligence to establish a reliable, autonomous electricity supply system.

Bielefeld School of Business

"BlockWASTE" EU project – HSBI team uses blockchain technology to develop a model for consistent recycling

↳ 20 Jan

Can a truly circular economy be integrated into the waste management process? Research teams from five European universities, including HSBI, are addressing this question in the "BlockWASTE" EU project. Blockchain technology has a key role to play in the search for answers.

2

Photography and Visual Media

"Custom aesthetics and autonomous creation" – Professor Katharina Bosse receives *CityARTist NRW* Award ↳ 7 Feb

The photography professor is the first ever person from Bielefeld to receive the €5,000 grant from the North Rhine-Westphalia Culture Office. But it doesn't stop there. Bosse also received the European Heritage Award for her *Thingstätten* project.

Health

TÜV-certified quality in nursing

↳ 18 Feb

While they are still studying, HSBI students in the Faculty of Health can train to be a TÜV-certified quality management representative. The opportunity for certification, which is offered by TÜV Rheinland and Prof. Dr. Heiko Burchert, is now secured for the long term by a cooperation agreement. It is also open to students from other faculties. See p. 86.

Open Sources

State Secretary for Science announces funding recipients – two HSBI projects among successful applicants for *OERContent.nrw* ↳ 18 Feb

The funding line for open educational resources promotes e-learning for all by supporting inter-university concepts for digital teaching and learning formats. HSBI creates teaching materials for the fields of nursing and business information systems. All universities in North Rhine-Westphalia can access these materials.

Engineering

Biological pest protection for blueberries ↳ 24 Feb

The collaborative "HOPE" project is developing biological formulations for the protection of blueberries. The project has two ambitious goals: to develop a new, sprayable virus substance to tackle the vinegar fly problem and to develop a process to *attract and kill* beetle larvae, which damage the root system.

↳ 13 Jan / AI4DG

↳ 7 Feb / CityARTist NRW

↱ 17 Mar / Robot-human collaboration

3

Bielefeld School of Business

Challenges of remote working – employment law and more

↳ 12 Mar

Companies in Germany are facing numerous questions with the permanent implementation of remote working arrangements. At an online event, HSBI experts informed attendees about guidelines and measures for ensuring that work concepts are safe and legal, and provided opportunities for them to share their experiences.

Sustainability

1,000 pupils at *"Tag der Bildung"* event ↳ 16 Mar

The topic of the panel discussions, the talks and the international school pupil conference at the *Tag der Bildung* (Education Day) event was "Climate Change Affects All of Us!"

Minden Campus

Dissertation on robot-human cooperation ↳ 17 Mar

In his dissertation at HSBI's Minden Campus, Dr. Robin Rasch developed anthropomorphic movement models for robots in order to facilitate safe, harmonious collaboration between robots and humans.

International Office

OWL region builds links with Silicon Valley ↳ 21 Mar

Campus OWL is one of the main supporters of the new "German Center for Research and Innovation" in San Francisco.

Transfer

Excitement at FameLab preliminary decision event in Bielefeld – 240 attendees

↳ 21 Mar

HSBI doctoral candidate Fabian Schoden wins audience prize for his presentation about solar cells that use fruit tea. See p. 36.

Gütersloh Campus

Experimentation at Gütersloh Campus ↳ 24 Mar

Study orientation days at Gütersloh Campus are designed to get young people excited about digital technology – and about the respective practical study programmes at HSBI. After numerous digital events in the last two years, the organisers are keen to make the most of "in person" aspects, including the *"experiMINT diGiTal"* school lab.

Sustainability

Selling "rescued" fruit and veg to students

↳ 30 Mar

The *Retterboxen* initiative seeks to tackle food waste and raise awareness of eating sustainably. The joint pilot project, which sells boxes of "rescued" fruit and vegetables to students, was initiated by "Restlos e.V." and HSBI's student union.

4

Engineering

Non-toxic, reusable dye-sensitised solar cells

↳ 7 Apr

Researchers at HSBI are working to develop a solar cell that is completely non-toxic and reusable – and thus suitable for a circular economy. See p. 36.

Health

New initiatives for nursing study programmes ↳ 12 Apr

HDZ NRW in Bad Oeynhausen, a hospital specialising in heart problems and diabetes, is the first hospital in the OWL region to partner with HSBI in order to create better conditions for the primary qualifying nursing study programme. As is the case with dual study programmes, students receive remuneration for the work they perform in clinical settings during the practical part of the programme.

Artificial Intelligence

NRW funding for *SAIL* research network ↳ 12 Apr

The new *SAIL* research network is intended to develop the foundations for the sustainable design of AI components. Alongside HSBI, this interdisciplinary network comprises Bielefeld University, Paderborn University and TH OWL. The project is also receiving up to 14.8 million euros of funding from the NRW state government.

Open Sources

HSBI's OER policy ↳ 13 Apr

HSBI is one of the first universities of applied sciences in North Rhine-Westphalia to adopt its own OER policy. The policy lays out guidelines for working with open educational resources in a secure and positive way.

Gütersloh Campus

VR pilot project – students experience interactive control technology ↳ 22 Apr

This semester, students at Gütersloh Campus can dive into virtual reality, using VR technology to perform live tests of the programmes they have written for an elevator system.

Design and Art

HSBI's ULTRAFETT Festival awarded international typography prize ↳ 25 Apr

The typographic key visuals, created by a team of students and alumni from the Faculty of Design and Art, were awarded this year's *Young Ones* award by the renowned New York *Type Directors Club*.

Minden Campus

Students develop futuristic designs for market hall in Hamburg's Oberbillwerder district ↳ 26 Apr

In an interdisciplinary student seminar, HSBI master's students turn the concept of a market hall on its head. Starting out as a simple commercial space, it is transformed into a centre for coexistence.

Social Sciences

Job satisfaction levels of early years educators ↳ 27 Apr

Expansion, staff shortages and a wide range of responsibilities – an HSBI study investigates the effects of these factors on job satisfaction levels among early years educators.

Girls & Boys Day

Nearly 70 school pupils visit HSBI ↳ 28 Apr

From creating 3D-printed jewellery to having a day's work experience as a nurse – as part of "Zukunftstag" (careers day), pupils in Bielefeld, Minden and Gütersloh acquired practical insights into exciting careers and study programmes.

5

International Office

"Welcome back to our international campus!" – International Week begins ↳ 2 May

The fourth International Week provides a platform for intercultural exchange. From 2–6 May, more than 70 guests from 30 different countries enrich HSBI's teaching and research activities with presentations, workshops and courses.

New study programme

State Secretary announces funding for courses at RailCampus OWL ↳ 5 May

The state of North Rhine-Westphalia provides 1.5 million euros of initial funding for two new study programmes: *Digital Rail Systems* and *Intelligent Rail Systems*.

Transfer

Green light for Innovation Campus for Sustainable Solutions *InCamS@BI* ↳ 10 May

In the second round of the joint state and federal initiative *Innovative Hochschule*, HSBI successfully secures 8.8 million euros of funding over five years, from 2023, to focus on materials research.

Refugees

Study On, Ukraine! Welcome Semester ↳ 11 May

HSBI launches a programme for refugees from Ukraine.

6

International Affairs

First *Bielefeld International Conference on Applied Business* – a great success

↳ 12 May

More than 70 international guests from academia and the business world discussed the economic challenges and opportunities presented by *Big Data*, as well as today's requirements for business degrees.

Engineering

What artificial brains are made of ↳ 16 May

A research team at HSBI is working on improving the morphology of electrospun nanofibre materials. These fascinatingly delicate textiles could be the important building blocks of tomorrow's computers. On this date, this topic – and the work being undertaken at HSBI – is featured on the front page of a leading global journal for magnetochemistry.

Computer Science

Robots that draw portraits and remind us to wear a mask and observe social distancing ↳ 20 May

As part of a robotics course at Minden Campus, Computer Science students programmed two robots. One oversized robotic arm that can draw portraits and a humanoid robot, *Pepper*, who warns people to observe social distancing and wear a face covering.

University

Over 5,000 guests at HSBI – a big crowd at the *Open Day*

↳ 21 May

Prospective students, students and their parents, local residents, employee family members and children from the region were all amazed by exciting experiments, sample lectures and the diversity of what the university has to offer.

Minden Campus

Insights at HIT ↳ 24 May

Visitors to the university information day (Hochschulinfotag – HIT) at Minden Campus learn about the study programmes and view numerous student projects.

Health

HSBI: municipal office becomes 30th cooperation partner for Nursing study programme ↳ 10 Jun

The Nursing study programme with professional qualification expands its cooperation with regional health institutions. The latest partner is a municipal office that is responsible for monitoring health, paediatric health, veterinary services and foodstuffs in Bielefeld.

Hannover Messe 2022

Joint exhibit by Bielefeld University and HSBI strengthens Bielefeld Campus ↳ 14 Jun

From 30 May to 2 June, HSBI and Bielefeld University exhibited together at Hannover Messe 2022 as Bielefeld Research + Innovation Campus (BRIC) at the joint stand shared with the engineering network "OWL Maschinenbau," the leading-edge cluster "it's OWL" and "OWL GmbH."

Engineering

HSBI Mechatronics students retrofit dune buggy with electric motor ↳ 15 Jun

In a series of projects, students gained practical knowledge in the areas of e-mobility, 3D printing and construction by converting the dune buggy, which has a combustion engine, to a road legal *e-buggy*. With a maximum speed of 70 km/h!

it's OWL

Project for using AI in logistics – HSBI joins forces with Weber Data Service to combat skills shortage ↳ 20 Jun

Dispatchers are becoming an increasingly rare "resource" in the logistics sector. Software provider Weber Data Service and HSBI launch a transfer project that seeks to use artificial intelligence (AI) to fulfil the monotonous part of the dispatcher's role. AI also scores well for sustainability.

Sustainability

Solar-powered Tiny House visits HSBI on its world tour

↳ 22 Jun

Living, travelling and working without causing emissions. The SolarButterfly project – a self-powered Tiny House – is visiting climate protection pioneers all over the world. On Wednesday, the team of activists stopped off at HSBI as part of Bielefeld's climate action days. In front of an audience of up to 100 people, they discussed innovation and efficient climate protection strategies with players from teaching and research.

Health

Heb@AR project – HSBI midwives practice for emergencies using *augmented reality* ↳ 27 Jun

As well as being up to date with the latest scientific findings, the Midwifery study programme is also keeping pace with the latest teaching techniques. Exercises that are supported by augmented reality offer numerous advantages and are a permanent feature in the curriculum. Excluding research projects, this is currently the only course in Germany that uses this method.

Campus OWL

New opportunities, unique experiences – eight students from OWL region visit New York ↳ 30 Jun

Each year, the New York office of the five public universities in the OWL region enables students to have a work placement in and around the Big Apple. The group meets at Roosevelt Island during their rewarding experience.

↳ 25 Apr / ULTRAFETT Festival

↱ 30 Jun / Campus OWL in New York

↳ 7 Apr / Dye-sensitised solar cells

↳ 7 Apr / Dye-sensitised solar cells

↱ 15 Jun / E-buggy

7

Fashion

HSBI's *Tour de la Mode* urban fashion show turns Bielefeld city centre into a giant catwalk ↳ 9 Jul

Students and graduates of the Fashion course presented around 40 collections in the historic city centre, in partnership with "Kunstverein Bielefeld."

Health

Norwegian nursing students visit Bielefeld hospital ↳ 11 Jul

Dag Olav Løve and Ole-Jakob Schubert from the University of Stavanger completed their international work placements at Bielefeld Mitte hospital. HSBI's Faculty of Health supported them during their placements.

Health

Study part-time while you work – apply now for two new university certificates in the field of health! ↳ 19 Jul

With close ties to clinical practice and research, the two continuing education certificates that are offered by the Faculty of Health at HSBI – *Fields of Action for Vocational Teachers in the Health Sector* and *Digitalisation in Health* – will update the knowledge and skills of employees working as vocational teachers, in particular.

Social Sciences

Before semi-final of Women's Euro tournament – HSBI bachelor thesis investigates gender equality in German football ↳ 26 Jul

What is the state of affairs in competitive women's football? Johanna Burre, a student at HSBI's Faculty of Social Sciences, addressed this question in her thesis. She identified numerous problematic developments, as well as some positive ones.

Bielefeld School of Business

International Business Management master's – now 100% in English ↳ 27 Jul

Furthermore, from the winter semester of 2022/23, the English-only study programme offered by Bielefeld School of Business at HSBI provides students with the opportunity to obtain a double degree.

8

Startups

HSBI signs Entrepreneurial Skills charter ↳ 3 Aug

By signing the "Stifterverband" charter, the university is boosting the integration of teaching content about startups and independent entrepreneurship – across all faculties.

Health

Refugee students from Ukraine learn about the caregiving professions at local hospital

↳ 10 Aug

They have extensive prior knowledge, are motivated and are already learning German. Refugees from Ukraine are continuing their nursing and medicine-related studies at HSBI. During the Summer School, they learned about the German health system at close quarters at the Evangelisches Klinikum Bethel hospital.

International Office

Refugee students from Ukraine can continue attending language courses and seminars at HSBI in the winter semester ↳ 11 Aug

HSBI has greatly expanded the range and number of language courses it offers. This is particularly beneficial for refugee students from Ukraine, who have already achieved great learning success in tailor-made "Study on, Ukraine!" offers during the summer semester. They will be able to continue attending English-taught courses in the upcoming winter semester.

Gütersloh Campus

New record: 108 first-year students begin their work-integrated studies ↳ 19 Aug

This winter semester, more students than ever before chose one of the five work-integrated study programmes at HSBI's Gütersloh Campus. 69 companies offered practical placements for these courses this semester.

Engineering

HSBI research project – moss façades for storing water ↳ 30 Aug

Can vertical green spaces on façades improve the microclimate in cities and store water? Researchers from HSBI are currently investigating this and are conducting research into a new way of cultivating moss and microalgae on textile substrates.

↳ 9 Jul / Tour de la Mode

↳ 30 Aug / Moss and microalgae

↱ 11 Aug / Many of the refugee students from Ukraine are originally from African countries

9

Minden Campus

Students test innovative material intended for shielding cars, PCs and smartphones from electromagnetic interference ↳ 1 Sep

When electronic devices or components are operating very close to one another, interference is not desirable. For them to work reliably, they often need to be shielded from one another. New shielding materials are constantly being developed – but how well do these materials work? HSBI students at Minden Campus investigated this for one new material, while at the same time developing a scalable measurement setup for determining the level of shielding.

Welcoming first-year students

In person start to the winter semester ↳ 19 Sep

In the winter semester, more than 2,100 first-year students started their bachelor's or master's degree programmes at HSBI's three locations: Bielefeld, Minden and Gütersloh. For the last two years, welcome meetings for first-year students have been digital due to the pandemic. On 19 September, however, the new students were once again welcomed at the Bielefeld and Minden locations.

HSBI Annual Reception

Theme of the celebration: *Constant Change* ↳ 22 Sep

The hybrid annual reception brought more than 300 national and international guests to the university, both in person and via a live stream. The theme of the event was "Constant Change." It looked back at the last academic year, while also looking ahead to the future – and the new tasks that the university is facing due to the societal, economic and technological changes taking place.

Nursing Study Programme

A valuable study programme no longer supported by apprenticeship wages ↳ 27 Sep

Emely Westfeld is in the second semester of a bachelor's degree in Nursing with professional qualification at HSBI. When visiting her during her work term at a residential unit for people with disabilities, it is evident that the theory she learns at HSBI is complementing the practical experience she gains at her placement. It is also evident that the extreme worsening of students' financial situations – following the change in regulations for dual degrees will further intensify the skills shortage in nursing.

10

Fashion

Upcycling workshop by two HSBI fashion designers – Fast fashion, no thanks! ↳ 3 Oct

During the "TRANSURBAN Residency" festival of culture, a two-day upcycling and repair workshop took place at the premises of the former Rochdale Barracks. Workshop participants had the opportunity to breathe new life into discarded clothing. The leaders were two HSBI fashion designers who are currently founding the label *nou.niss*.

RailCampus OWL

New Digital Rail Systems study programme launched ↳ 4 Oct

The first day of lectures started with a celebratory welcome event for the new students on the *Digital Rail Systems* bachelor's programme, which was held at the premises of DB Systemtechnik GmbH in Minden. Talented young academics are to be trained at this site in the coming years – for the future of the railway system. The joint supporters of this study programme are HSBI, TH OWL, Bielefeld University and Paderborn University.

Transport Transition

MONOCABs travel on decommissioned Extertal railway ↳ 5 Oct

Transport minister Oliver Krischer praises the system as a catalyst for increasing sustainability and quality of life. Researchers at HSBI contributed, in partnership with TH OWL, by developing a chassis with a special wheel profile for the MonoCab.

Bielefeld School of Business

Erich-Gutenberg-Gesellschaft Prize – HSBI student investigates sustainability of ESG funds ↳ 6 Oct

How sustainable is a sustainable equity fund? Dominik Breitenbach wanted to know, so in his bachelor thesis he developed an instrument that non-experts can use in order to answer this question. His concept even impressed the Herford-based Erich-Gutenberg-Gesellschaft; the society awarded the HSBI graduate its prize for exceptional theses.

Sustainability

The origins of electromobility – E-Fox transferred to Bielefeld Historical Museum ↳ 10 Oct

Back in 1994, the E-Fox design was ahead of its time, showing how sustainable and suitable for everyday use the electric car could be. The vehicle, which is based on a VW Polo II, was developed by HSBI students and was probably the first road-legal "normal" electric car in the OWL region. The E-Fox will now be part of the permanent exhibition at Bielefeld Historical Museum.

HSBI Fördergesellschaft

Multitalented HSBI student receives 2022 Commitment Award ↳ 20 Oct

Each year, HSBI's supporter society ("Fördergesellschaft") awards a prize to students who have made exceptional contributions to society. In 2022, the recipient of the €1,000 prize was Business Administration student Jannis Schröder. He is working on a vertical farming startup, teaches people about equity investments on a voluntary basis and operates a free, ad-free Latin translation website.

11

Livestock Farming

HSBI project *iCurS* – improving livestock stable environments ↳ 3 Nov

The *iCurS* research project at the Faculty of Engineering and Mathematics aims to use intelligent lighting and air systems to optimise stable environments for animals. The organisations partnering with HSBI for this project are: ATS Elektronik GmbH, the agricultural testing and training centre "Haus Düsse" and DeLaval International AB.

Health

Stemming the shortage – HSBI trains vocational teachers for the healthcare sector ↳ 11 Nov

The demand is staggering at the healthcare training institutions in North Rhine-Westphalia. Nearly 1,000 teachers are needed in the short and medium term. HSBI is addressing this problem by offering sound, practical training for vocational teachers for the healthcare sector in two sequential study programmes. The capacity for these courses was only increased recently. Thus, in the face of the nursing crisis, HSBI is making an important provision to healthcare provision in the region.

12

Engineering

Field test at HSBI – AI system keeps power grid stable even when charging e-vehicles

↳ 15 Nov

For nearly three years, young researchers at HSBI and Bielefeld University have been working on an AI application for controlling the low voltage power network. Their work is essential in order to keep the power grid performing well in the face of growing demand for e-vehicle charging. On this date, they tested in a real-life environment – the first non-lab test for their AI system. Two partner companies from the region helped to make it possible: Autohaus Mattern and the e-carsharing provider CITYca.

University

Graduate School for Applied Research in NRW awarded independent right to confer doctorates

↳ 16 Nov

The Federal Ministry for Culture and Science announced that it was awarding the right to confer doctorates to the Graduate School for Applied Research in North Rhine-Westphalia (PK NRW). This means that in future, PK NRW will be able to independently conduct doctoral examination procedures and award doctorates. The ceremony to award the right to confer doctorates took place in Essen on 17 November.

Machine Learning

Say goodbye to stamping! HSBI research group teaches robotic dog to walk "properly"

↳ 17 Nov

The *Embedded Systems and Biomechatronics* work group at HSBI has a new "pet." His name is Achilles. The researchers want to teach the robotic dog to walk as well as his role models in the natural world. Meanwhile, they are already developing ideas for appropriate practical applications for the optimised canine.

Fashion

Fabricating the Future: HSBI fashion graduate presents her sustainable fashion collection in New York City

↳ 23 Nov

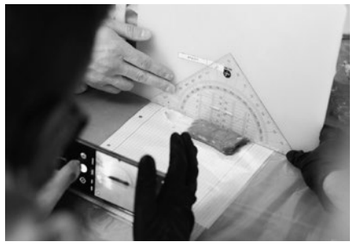
For her graduation collection at HSBI, Anne-Marie Sust used microalgae to develop innovative and environmentally friendly pigment pastes. On this date, she presented her concept at the FUTURE FORUM in New York City.

Sustainability

Climate neutral Bielefeld by 2030 – HSBI, municipality and municipal utilities sign a *letter of intent*

↳ 9 Dec

These three partners are keen to work together closely in the area of sustainability and they plan to make joint requests for federal and national funding.



Minden Campus

HSBI engineers partner with medic to develop digital twin of abdominal wall

↳ 13 Dec

In future, it is hoped that a digital model can be used to better investigate the frequent failure of the stomach to fuse back together after abdominal surgery. This approach follows the current trend and requires no animal testing. Together with an abdominal surgeon, HSBI master's students at Minden Campus are using a finite element method to develop a simulation model.

REGIONALE 2022

Utilising opportunities for Bielefeld and NRW

↳ 20 Dec

In the OWL region, there were 62 "REGIONALE" projects, which developed solutions for issues surrounding the future of sustainable mobility, contemporary living and safeguarding healthcare provision. HSBI experts were involved in ten projects, including "RailCampus OWL," "MONOCAB" and "Think Tank." The REGIONALE presentation year entitled *UrbanLand Sommer* was officially concluded with a party on 15 December.

Careers

Career@BI gathers momentum – on the hunt for tomorrow's professors

↳ 21 Dec

In some fields, academic teaching staff are extremely hard to find. Yet many potential candidates are close to meeting the requirements for becoming a professor at a university of applied sciences (UAS). HSBI's Career@BI project specifically targets postdocs and business professionals who wish to undertake additional training in order to start a professorship at a UAS.

↳ 20 Oct / Commitment Award

↳ 3 Nov / iCurS

↳ 17 Nov / Robotic dog

↱ 3 Nov / iCurS

↱ 3 Nov / iCurS

↱ 21 Dec / Career@BI

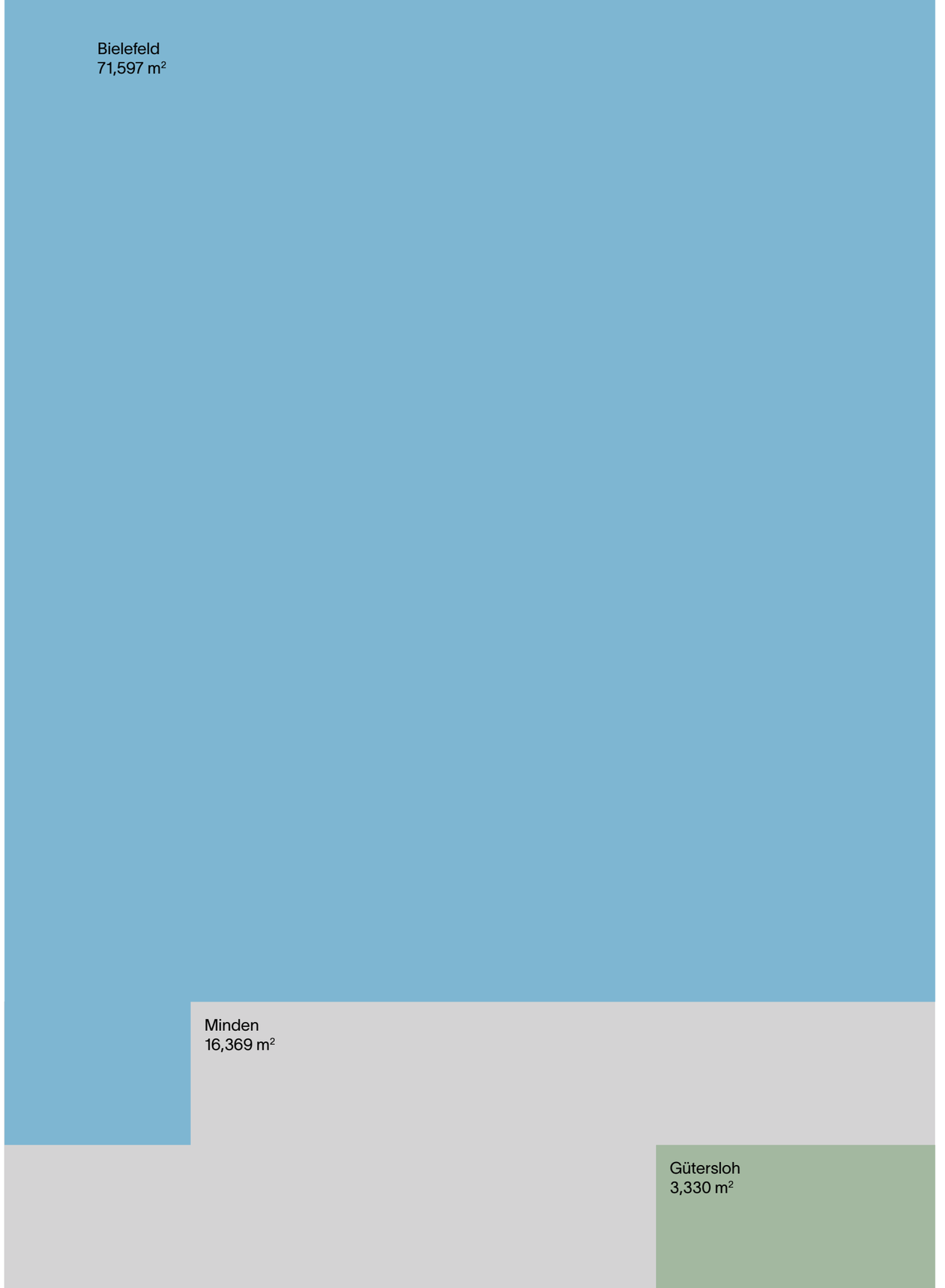
Facts and Figures

Students Winter Semester 22/23

10,535

Areas of HSBI

91,296 m²



Bachelor's Degree Studies

Programme	Model	Degree	Faculty	Location
(Early) Childhood Education	Full-time degree	Bachelor of Arts	Social Sciences	Bielefeld
Applied Mathematics	Full-time degree	Bachelor of Science	Engineering and Mathematics	Bielefeld
Architecture	Full-time degree	Bachelor of Arts	Minden Campus	Minden
Biotechnology and Instrumentation Engineering	Full-time degree	Bachelor of Science	Engineering and Mathematics	Bielefeld
Business Administration	Part-time combined	Bachelor of Arts	Bielefeld School of Business	Bielefeld
Business Administration	Part-time combined	Bachelor of Arts	Bielefeld School of Business	Gütersloh
Business Administration	Full-time degree	Bachelor of Arts	Bielefeld School of Business	Bielefeld
Business Administration	Work-integrated	Bachelor of Arts	Bielefeld School of Business	Bielefeld
Business Information Systems	Work-integrated	Bachelor of Science	Bielefeld School of Business	Bielefeld
Business Information Systems	Full-time degree	Bachelor of Science	Bielefeld School of Business	Bielefeld
Business Law	Full-time degree	Bachelor of Laws	Bielefeld School of Business	Bielefeld
Business Administration and Engineering	Work-integrated	Bachelor of Engineering	Minden Campus	Minden
Business Psychology	Full-time degree	Bachelor of Science	Bielefeld School of Business	Bielefeld
Civil Engineering	Full-time degree	Bachelor of Engineering	Minden Campus	Minden
Computer Science	Full-time degree	Bachelor of Science	Minden Campus	Minden
Design	Full-time degree	Bachelor of Arts	Design and Art	Bielefeld
Digital Logistics	Work-integrated	Bachelor of Engineering	Engineering and Mathematics	Gütersloh
Digital Rail Systems	Full-time degree	Bachelor of Science	Engineering and Mathematics	Minden
Digital Technologies	Work-integrated	Bachelor of Engineering	Engineering and Mathematics	Gütersloh
Electrical Engineering	Part-time combined	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Electrical Engineering	Work-integrated	Bachelor of Engineering	Minden Campus	Minden
Electrical Engineering	Full-time degree	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Engineering Computer Sciences	Full-time degree	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Health	Full-time degree	Bachelor of Arts	Health	Bielefeld
Health (Nursing/collaborative) (in collaboration with vocational schools)	Collaborative	Bachelor of Arts	Health	Bielefeld
Health (Therapy/collaborative) (in collaboration with vocational schools)	Collaborative	Bachelor of Arts	Health	Bielefeld
Industrial Engineering and Management	Work-integrated	Bachelor of Engineering	Engineering and Mathematics	Gütersloh
Industrial Engineering and Management	Full-time degree	Bachelor of Science	Engineering and Mathematics	Bielefeld
Infrastructure Engineering	Full-time degree	Bachelor of Engineering	Minden Campus	Minden
International Studies in Management	Full-time degree	Bachelor of Arts	Bielefeld School of Business	Bielefeld
Mechanical Engineering	Full-time degree	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Part-time combined	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Mechanical Engineering	Work-integrated	Bachelor of Engineering	Minden Campus	Minden
Mechatronics	Full-time degree	Bachelor of Science	Engineering and Mathematics	Bielefeld
Mechatronics/Automation	Work-integrated	Bachelor of Engineering	Engineering and Mathematics	Gütersloh
Midwifery	Work-integrated	Bachelor of Science	Health	Bielefeld
Nursing	With professional qualification	Bachelor of Science	Health	Bielefeld
Product-Service Engineering	Work-integrated	Bachelor of Engineering	Engineering and Mathematics	Gütersloh
Project Management Construction	Full-time degree	Bachelor of Engineering	Minden Campus	Minden
Renewable Energies	Full-time degree	Bachelor of Engineering	Engineering and Mathematics	Bielefeld
Social Work	Full-time degree	Bachelor of Arts	Social Sciences	Bielefeld

Master's Degree Studies and Certificates

Programme	Model	Degree	Faculty	Location
Applied Automation	Further education part-time combined	Master of Engineering	Engineering and Mathematics	Gütersloh
Advanced Nursing Practice	Further education part-time combined	Master of Science	Health	Bielefeld
BioMechatronics (in collaboration with Bielefeld University)	Full-time degree	Master of Science	Engineering and Mathematics	Bielefeld
Business Information Systems	Full-time degree	Master of Science	Bielefeld School of Business	Bielefeld
Business Law and Contract Drafting	Full-time degree	Master of Laws	Bielefeld School of Business	Bielefeld
Business Psychology	Full-time degree	Master of Science	Bielefeld School of Business	Bielefeld
Computer Science	Full-time degree	Master of Science	Minden Campus	Minden
Controlling Finance Accounting	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Data Science (Master of Applied Research)	Full-time degree	Master of Science	Engineering and Mathematics	Gütersloh
Design, 3-semester	Full-time degree	Master of Arts	Design and Art	Bielefeld
Design, 4-semester	Full-time degree	Master of Arts	Design and Art	Bielefeld
Digital Technologies	Further education part-time combined	Master of Engineering	Engineering and Mathematics	Gütersloh
Electrical Engineering	Full-time degree	Master of Engineering	Engineering and Mathematics	Bielefeld
General Management	Further education part-time combined	Master of Business Administration	Bielefeld School of Business	Bielefeld
Human Resource Management and Organisation	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Industrial Engineering and Management	Further education part-time combined	Master of Engineering	Engineering and Mathematics	Gütersloh
Integral Construction	Full-time degree	Master of Arts/of Engineering	Minden Campus	Minden
Integrated Technology and System Development	Part-time degree	Master of Engineering	Minden Campus	Minden
Integrated Technology and System Development	Full-time degree	Master of Engineering	Minden Campus	Minden
International Business Management	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Management for Engineering and Natural Sciences	Further education part-time combined	Master of Business Administration	Bielefeld School of Business	Bielefeld
Marketing and Sales	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Mechanical Engineering	Full-time degree	Master of Science	Engineering and Mathematics	Bielefeld
Optimisation and Simulation	Full-time degree	Master of Science	Engineering and Mathematics	Bielefeld
Production and Logistics	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Social Transformation Studies	Full-time degree	Master of Arts	Social Sciences	Bielefeld
Taxation and Audit	Full-time degree	Master of Arts	Bielefeld School of Business	Bielefeld
Vocational Education Science for Health Professions	Full-time degree	Master of Arts	Health	Bielefeld
Certificates				
Compliance Manager Digitisation and Law	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Digitalisation in Health – Developments and Challenges	Part-time certificate	Certificate	Health	Bielefeld
Doing Business in …	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Fields of Action for Vocational Teachers in the Health Sector	Part-time certificate	Certificate	Health	Bielefeld
International Project Management	Part-time certificate	Certificate	Bielefeld School of Business	Bielefeld
Management and Development of Health-Sector Schools	Part-time certificate	Certificate	Health	Bielefeld

Student Numbers
Winter Semester 2022/23

Students

	TOTAL	FEMALE	*NON-FEMALE
Total	10,535	4,546	5,989

→ by degree

Students in bachelor's degree programmes	9,057
Students in master's degree programmes	1,478

→ by faculty

Design and Art	576	375	201
Minden Campus	1,632	445	1,187
Engineering and Mathematics	2,904	392	2,512
Social Sciences	1,605	1,201	404
Bielefeld School of Business	3,125	1,558	1,567
Health	693	575	118

→ by study location

Bielefeld	8,311
Gütersloh	566
Minden	1,658

→ by study model

Full-time degree	10,451
Part-time degree	84
Collaborative	65
With professional qualification	61
Work-integrated	949
Part-time combined	1,194
... thereof continuing education	277

* *Non-female* comprises *non-binary* and *male*
This statistic has sparked discussion in the past, which is why we would like to offer a brief explanation: HSBI's aim and legal duty is to promote women and communicate the status quo transparently. These figures are taken from HSBI's data warehouse. Due to personality and data protection, and given the relatively small groups at our university, we have to prevent people from "looking out" for individuals' sexual identity.

Graduates in the Examination Year 2022
→ 1,908

Partner Universities

Country	City	Partner University	Programme	Faculty
Albania	Tirana	University of Arts in Tirana (UART)	Erasmus+ International (ICM)	Design and Art
Albania	Tirana	Polytechnic University of Tirana	Erasmus+ International (ICM)	Engineering and Mathematics
Albania	Tirana	Tirana Business University College (TBU)	Erasmus+ International (ICM)	Bielefeld School of Business
Albania	Tirana	University of Tirana	Erasmus+ International (ICM)	Bielefeld School of Business
Albania	Durrës	Aleksandër Moisiu University	Erasmus+ International (ICM)	HSBI as a whole
Austria	Vienna	FH Campus Wien University of Applied Sciences	Erasmus+	Engineering and Mathematics + Health
Austria	Puch bei Hallein	Salzburg University of Applied Sciences	Erasmus+	Bielefeld School of Business + Minden Campus
Austria	St. Pölten	St. Pölten University of Applied Scienes	Erasmus+	Health
Austria	Hall in Tirol	Tyrolean Private University UMIT	Erasmus+	Health
Belgium	Antwerp	Artesis Plantijn University College Antwerp	Erasmus+	Design and Art
Belgium	Brussels	Luca School of Arts	Erasmus+	Design and Art
Belgium	Ghent	HOGENT	Erasmus+	Health + Design and Art
Belgium	Kortrijk	Vives University College	Erasmus+	Engineering and Mathematics + Social Sciences
Belgium	Leuven	KU Leuven	Erasmus+	Engineering and Mathematics
Belgium	Hasselt	PXL University of Applied Sciences and Arts	Erasmus+	Engineering and Mathematics
Brazil	Boa Vista, Garanhuns	Universidade Federal Do Agreste de Pernambuco (UFAPE)	Coop. HSBI	Engineering and Mathematics
Brazil	Centro, Santa Maria	Franciscan University	Coop. HSBI	Health
Brazil	Santa Maria	Franciscan University	Coop. HSBI	Health
Bulgaria	Sofia	Sofia University St. Kliment Ohridski	Erasmus+ and BIP	Social Sciences
Canada	Halifax	Nova Scotia College of Art and Design	Coop. HSBI	Design and Art
Canada	Winnipeg	University of Manitoba (Price School of Engineering)	Coop. HSBI	Engineering and Mathematics
Canada	Winnipeg	U Manitoba (Asper School of Business)	Coop. HSBI	Bielefeld School of Business (IBSEN network)
Canada	Wolfville	Acadia University of Wolfville	Coop. HSBI	Bielefeld School of Business
Canada	Abbotsford	University of the Fraser Valley (UFV)	Coop. HSBI	Bielefeld School of Business
Canada	Regina	University of Regina	Coop. HSBI	Bielefeld School of Business + Engineering and Mathematics
Canada	Edmonton	Northern Alberta Institute of Technology (Nait)	Coop. OWL	HSBI as a whole
Canada	Edmonton	Mac Ewan University	Coop. OWL	HSBI as a whole
Canada	Edmonton	University of Alberta	Coop. OWL	HSBI as a whole
Canada	Edmonton	Concordia University of Edmonton	Coop. OWL	HSBI as a whole
Chile	Región Metro-politana, Santiago	University of Santiago de Chile	Coop. HSBI	HSBI as a whole
China	Yinchuan	North Minzu University, Northwest University of Nationalities	Coop. HSBI	Design and Art
China	Nanjing	Hohai University (HHU), Changzhou Campus	Coop. HSBI	Minden Campus
China	Chengdu	South West Jiatong University (SWJTU), Emei and Chengdu Campuses	Coop. HSBI	Engineering and Mathematics
China	Shouguang	Weifang University of Science and Technology (WUST)	Coop. HSBI	Engineering and Mathematics
China	Shanghai	Shanghai Normal University (SHNU), College of Information, Mechanical & Electrical Engineering	Coop. HSBI	Engineering and Mathematics
China	Qingdao	Qingdao University of Science and Technology (QUST)	Coop. HSBI	Engineering and Mathematics
China	Qingdao	Shandong University of Science and Technology (SDUST), College of International Exchange	Coop. HSBI	Engineering and Mathematics + Bielefeld School of Business
China	Shanghai	CDHAW at Tongji University	Coop. HSBI (DHIK)	Engineering and Mathematics
China	Shanghai	Tongji University College of Design and Innovation (TJDI)	Coop. HSBI	Design and Art
Colombia	Bogotá	Universidad Nacional de Colombia	Coop. HSBI	Engineering and Mathematics
Colombia	Bogotá	Universidad Distrital Francisco José de Caldas	Coop.	Engineering and Mathematics
Cyprus	Nicosia	University of Cyprus	Erasmus+	Engineering and Mathematics
Czech Republic	Staré Město	Academy of Arts Architecture and Design in Prague	Erasmus+	Design and Art
Czech Republic	Liberec	Technical University of Liberec	Erasmus+	Engineering and Mathematics
Czech Republic	Prague	Czech University of Life Sciences	Erasmus+	Bielefeld School of Business (IBSEN network)
Czech Republic	Brno	BRNO University of Technology	Erasmus+	Bielefeld School of Business
Denmark	Esbjerg	University College South Denmark	Erasmus+	Bielefeld School of Business + Social Sciences
Ecuador	Riobamba	Universidad Nacional de Chimborazo	Coop. HSBI	Social Sciences
Estonia	Tallinn	TalTech University	Erasmus+	Engineering and Mathematics
Estonia	Tartu	University of Tartu	Erasmus+	Bielefeld School of Business
Finland	Vasa	Novia University of Applied Sciences	Erasmus+	Design and Art
Finland	Joensuu	Karelia University of Applied Sciences	Erasmus+	Engineering and Mathematics
Finland	Lahti	LAB University of Applied Sciences	Erasmus+	Bielefeld School of Business
Finland	Kouvola	South-Eastern Finland University of Applied Sciences (XAMK)	Erasmus+	Bielefeld School of Business (IBSEN network) + Health
Finland	Tampere	Tampere University of Applied Sciences	Erasmus+	Bielefeld School of Business
Finland	Kuopio	Savonia University of Applied Sciences	Erasmus+	Health
France	Paris	École Nationale Supérieure des Arts Décoratifs	Erasmus+	Design and Art
France	Ivry-sur-Seine	École Supérieure d'Informatique Électronique Automatique	Erasmus+	Engineering and Mathematics
France	Saint-Étienne	École Nationale Supérieure des Mines de Saint-Étienne (ENSMSE)	Erasmus+	Engineering and Mathematics
France	Toulouse	Institut Limayrac Toulouse	Erasmus+	Social Sciences
France	Valenciennes Cedex 9	Polytechnic University of Hauts-de-France	Erasmus+	Bielefeld School of Business (IBSEN network)
France	Dunkerque	University of the Littoral Opal Coast	Erasmus+	Bielefeld School of Business
France	Créteil	Paris-Est Créteil University	Erasmus+	Bielefeld School of Business
Georgia	Tbilisi	Tbilisi State Academy of Art	Coop. HSBI	Design and Art
Greece	Tripoli	University of the Peloponnese	Erasmus+ (internships only)	Health
Hungary	Budapest	Moholy-Nagy University of Art and Design (MOME)	Erasmus+	Design and Art
Hungary	Budapest	Budapest Business School University of Applied Sciences	Erasmus+	Bielefeld School of Business
Iceland	Bifröst	Bifröst University	Erasmus+	Bielefeld School of Business
Iran	Yazd	Yazd University	Coop. HSBI	Engineering and Mathematics
Iraq	Erbil Region	Erbil Polytechnic University	Coop. HSBI	HSBI as a whole
Ireland	Tralee	MTU Munster Technological University / Tralee, Co Kerry	Erasmus+	Social Sciences
Israel	Jerusalem	Bezalel Academy of Arts and Design Jerusalem	Erasmus+ International (ICM)	Design and Art
Israel	Haifa	Technion – Israel Institute of Technology	Coop. HSBI	HSBI as a whole
Italy	Bari	Academy of Fine Arts of Bari	Erasmus+	Design and Art
Italy	Cagliari	University of Cagliari	Erasmus+	Minden Campus + Engineering and Mathematics + Bielefeld School of Business (IBSEN network)
Italy	Ancona	Marche Polytechnic University	Erasmus+	Engineering and Mathematics + Social Sciences + Bielefeld School of Business
Jordan	Amman	German-Jordanian University (GJU)	Coop. HSBI	Bielefeld School of Business + Engineering and Mathematics + Design and Art
Lithuania	Vilnius	Vilnius Academy of Arts	Erasmus+	Design and Art

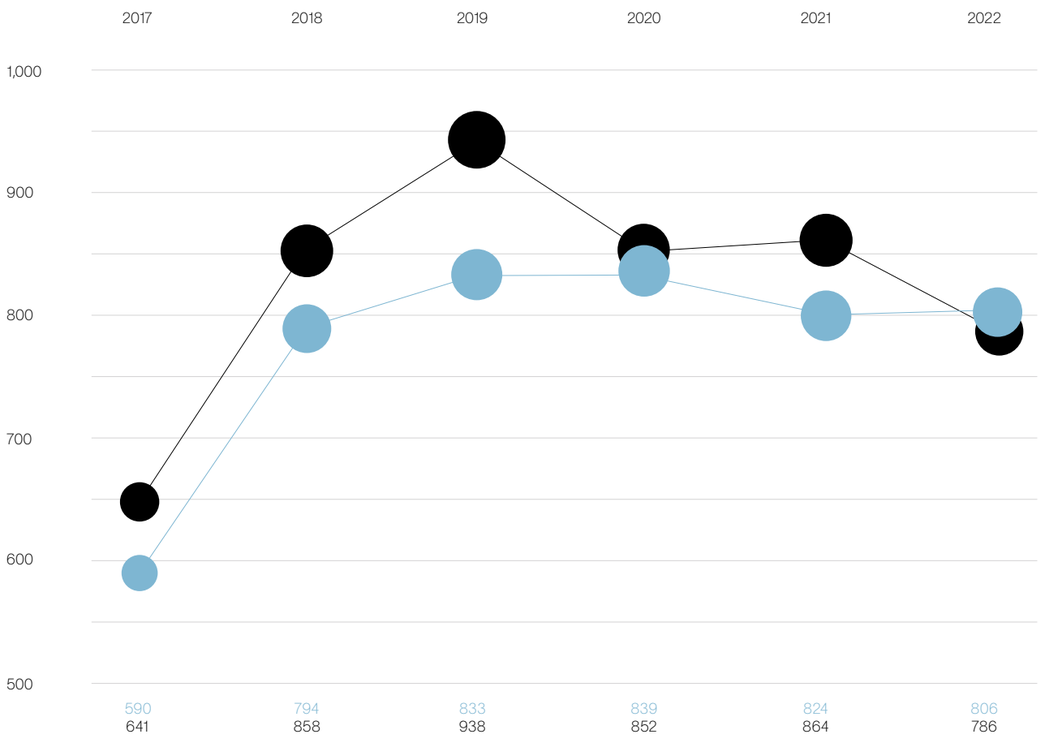
→

Mexico	San Andrés Cholula, Puebla	University of the Americas (UDLAP)	Coop. HSBI	HSBI as a whole
Mexico	Gómez Palacio	Universidad La Salle Laguna	Coop. HSBI	HSBI as a whole
Mexico	San Pedro Cholula, Puebla	Ibero-American University	Coop. HSBI	Bielefeld School of Business
Mexico/DHIK	various locations	Instituto Tecnológico de Monterrey (MDHK)	Coop. HSBI (DHIK)	Design and Art + Minden Campus + Engineering and Mathematics + Bielefeld School of Business
Netherlands	Rotterdam	Rotterdam University of Applied Sciences	Erasmus+	Bielefeld School of Business
Netherlands	The Hague	The Hague University of Applied Sciences	Erasmus+	Bielefeld School of Business (IBSEN network)
Nicaragua	León	ULSA University Nicaragua	Erasmus+ International (ICM)	Engineering and Mathematics
Norway	Ålesund	Norwegian University of Applied Sciences and Technology, Ålesund	Erasmus+	Bielefeld School of Business
Norway	Stavanger	University of Stavanger	Erasmus+ (internships only)	Health
Palestinian territory	Jenin	Arab American University	Coop. HSBI	Bielefeld School of Business
Peru	Los Álamos de Monterrico, Santiago de Surco, Lima	Peruvian University of Applied Sciences (UPC)	Coop. HSBI	Design and Art + Engineering and Mathematics
Peru	Ayacucho	Universidad Nacional de San Cristóbal de Huamanga	Coop. HSBI	Social Sciences
Poland	Rzeszów	University of Rzeszów	Erasmus+	Engineering and Mathematics + Social Sciences
Poland	Rzeszów	Rzeszów Universtity of Technology	Erasmus+	Minden Campus + Bielefeld School of Business + Engineering and Mathematics
Poland	Warszawa	Institute of Power Engineering	Coop. HSBI	Engineering and Mathematics
Poland	Wrocław	Wrocław University of Science and Technology	Erasmus+	Engineering and Mathematics + Minden Campus
Poland	Gliwice	Silesian University of Technology	Erasmus+	Engineering and Mathematics + Bielefeld School of Business
Poland	Katowice	University of Silesia in Katowice	Erasmus+	Social Sciences
Poland	Rzeszów	University of Information Technology and Management in Rzeszów, Poland	Erasmus+	Bielefeld School of Business
Poland	Kraków	Cracow University of Economics	Erasmus+	Bielefeld School of Business
Poland	Lublin	Medical University of Lublin	Erasmus+	Health
Poland	Kraków	Jagiellonian University in Kraków	Erasmus+	Health
Portugal	Funchal	University of Madeira	Erasmus+	Minden Campus
Portugal	Braga	University of Minho	Erasmus+	Bielefeld School of Business
Republic of Korea (South Korea)	Seoul	Chung-Ang University	Coop. HSBI	Design and Art
Republic of Korea (South Korea)	Chuncheon	Hallym University	Coop. HSBI	Bielefeld School of Business (IBSEN network)
Russia*	St. Petersburg	Saint Petersburg State University of Technology and Design (SPSUTD)	Coop. HSBI	Design and Art
Russia*	Veliky Novgorod	Yaroslav-the-Wise Novgorod State University	Coop. HSBI and Erasmus+ International (ICM)	Engineering and Mathematics
Russia*	St. Petersburg	St. Petersburg State University of Economics (Unecon)	Coop. HSBI	Engineering and Mathematics
Russia*	Moscow	Institute of Business Studies Moscow (RANEPA)	Coop. HSBI	Bielefeld School of Business
Russia*	Nizhny Novgorod	State University of Architecture and Civil Engineering	Coop. HSBI	Bielefeld School of Business
Russia*	Rostov-on-Don	Southern Federal University, Taganrog, Rostov Region	Coop. HSBI	Engineering and Mathematics
Serbia	Belgrade	University of Arts Belgrade, Serbia	Erasmus+ International (ICM)	Design and Art
Slovakia	Staré Mesto	Academy of Fine Arts and Design in Bratislava	Erasmus+	Design and Art
Slovenia	Maribor	University of Maribor	Erasmus+	Bielefeld School of Business + Engineering and Mathematics
Spain	Vitoria-Gasteiz	Escuela de Arte y Superior de Diseño (IDarte)	Erasmus+	Design and Art
Spain	San Cristóbal de La Laguna	University of La Laguna	Erasmus+	Minden Campus
Spain	Oviedo	University of Oviedo	Erasmus+	Minden Campus + Engineering and Mathematics
Spain	València	Polytechnic University of Valencia	Erasmus+	Engineering and Mathematics
Spain	Vigo	University of Vigo	Erasmus+	Bielefeld School of Business + Engineering and Mathematics
Spain	Zaragoza	University of Zaragoza	Erasmus+	Engineering and Mathematics + Social Sciences
Spain	Zaragoza	HAC_R Creativo	Erasmus+	Design and Art
Spain	Cáceres	University of Extremadura	Erasmus+	Bielefeld School of Business
Spain	Barcelona	International University of Catalonia	Erasmus+	Bielefeld School of Business
Spain	Vic, Barcelona	University of Vic	Erasmus+	Bielefeld School of Business
Spain	La Cañada, Almería	University of Almería	Erasmus+	Health
Spain	Madrid	Comillas Pontifical University	Erasmus+ (internships only)	Health
Sweden	Halmstad	Halmstad University	Erasmus+	Minden Campus + Engineering and Mathematics
Sweden	Uppsala	Uppsala University	Erasmus+ (only doctoral candidates)	Engineering and Mathematics
Sweden	Gothenburg	University of Gothenburg	Erasmus+	Social Sciences
Switzerland	Bern	Berner Bildungszentrum Pflege	Coop. and Erasmus+ (SEMP)	Health
Switzerland	Muttenz	University of Applied Sciences and Arts Northwestern Switzerland	Erasmus+ (SEMP)	Social Sciences
Tanzania	Wits	Faculty of Civil Engineering and the Built Environment	Coop. HSBI	Minden Campus
Tunisia	Sfax	University of Sfax – ENIS	Erasmus+ International (ICM)	Engineering and Mathematics
Turkey	Kadıköy/Istanbul	Marmara University	Erasmus+	Design and Art
Turkey	Sarıyer/Istanbul	Istanbul Technical University	Erasmus+	Minden Campus
Turkey	Urla/Izmir	Izmir Institute of Technology	Erasmus+	Minden Campus
Turkey	Beyoğlu/Istanbul	Mimar Sinan Fine Arts University	Erasmus+	Minden Campus (Civ. Eng.)
Turkey	Nilüfer/Bursa	Vocational School of Technical Sciences	Erasmus+	Engineering and Mathematics + Bielefeld School of Business
Turkey	Beyoğlu/Istanbul	Istanbul Kent University	Erasmus+	Social Sciences
Turkey	Konyaaltı/Antalya	Akdeniz University	Erasmus+	Social Sciences
Turkey	Balçova/Izmir	Izmir University of Economics	Erasmus+	Bielefeld School of Business (IBSEN network)
Turkey	Fatih/Istanbul	Istanbul University	Erasmus+	Bielefeld School of Business
Turkey	Beykoz/Istanbul	Turkish-German University	Erasmus+ and Coop. Double Degree	Bielefeld School of Business
Turkey	Bahçelievler/ Istanbul	Marmara University	Erasmus+	Bielefeld School of Business
Turkey	Kadiköy/Istanbul	Marmara University	Erasmus+	Bielefeld School of Business
United Kingdom	Inverness	Inverness College	Erasmus+	Design and Art
United Kingdom	London	University of the Arts London	Erasmus+	Design and Art
United Kingdom	Middlesbrough	Teesside University	Erasmus+	Bielefeld School of Business
United Kingdom	Nottingham	University of Nottingham	Erasmus+ (internships only)	Health
USA	Marquette	Northern Michigan University	Coop. HSBI	Bielefeld School of Business
USA	East Stroudsburg	East Stroudsburg University	Coop. HSBI	Bielefeld School of Business
USA	Spearfish	Black Hills State University	Coop. HSBI	Bielefeld School of Business
USA	Boise	Boise State University	Coop. HSBI	Bielefeld School of Business
USA	Tacoma	University of Washington Tacoma	Coop. HSBI	Bielefeld School of Business
USA	Fort Pierce	Indian River State College	Coop. HSBI	Bielefeld School of Business (IBSEN network)
Vietnam	Ho Chi Minh City	Ho Chi Minh City University of Technology (HCMUT)	Coop. HSBI	Engineering and Mathematics

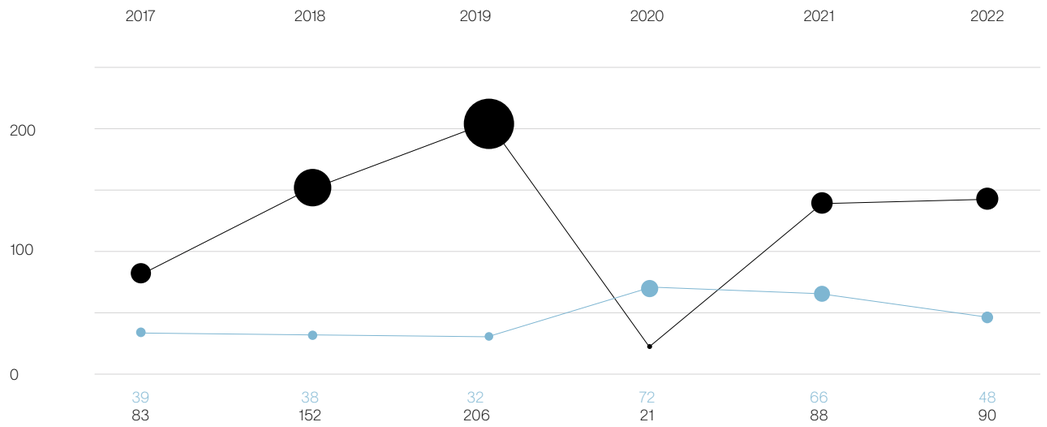
* Cooperation suspended at the moment

International Students, Refugees in German Courses at HSBI, Exchange Students

International students

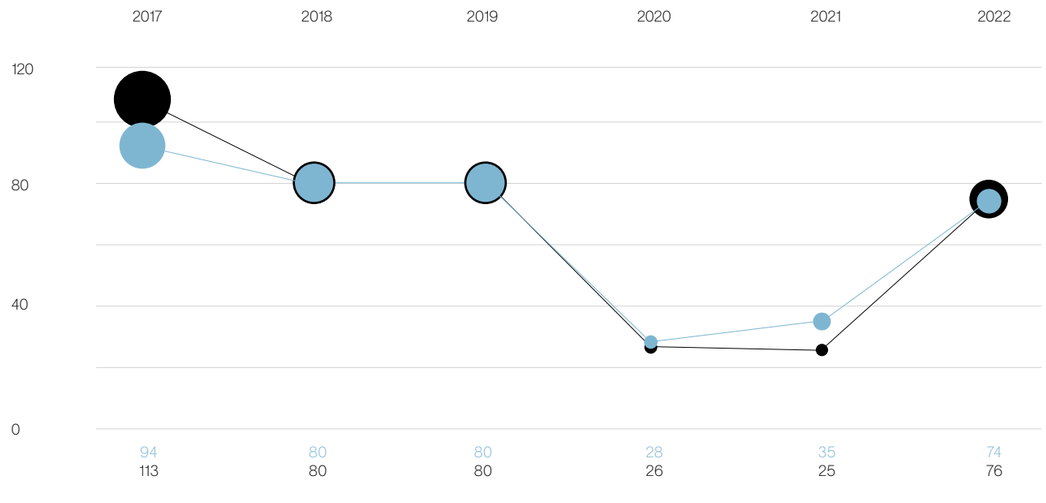


Students receiving funding for stays abroad*

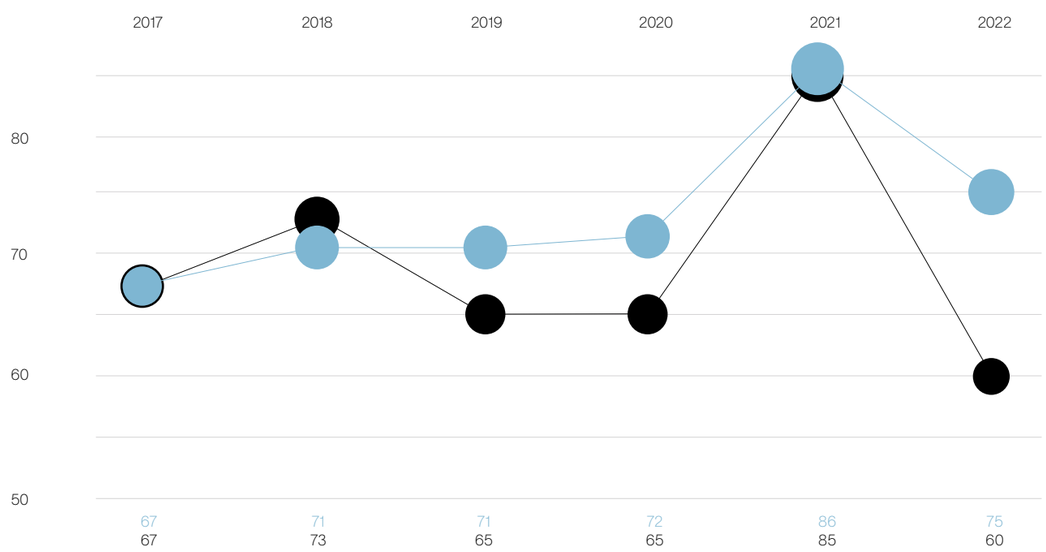


* The basis for calculating the number of international students has changed compared to 2020: since 2021, visiting or guest students are not considered anymore.

Refugees in German courses at HSBI



Exchange students to Bielefeld



HSBI Employees

	TOTAL	FEMALE	MALE	NON-BINARY
Professors	222	65	157	0
Substitute professors	10	8	2	0
Lecturers for special assignments	54	34	20	0
Academic and scientific staff	331	141	190	0
Technical and administrative staff	298	203	95	0
Total	915	451	464	0

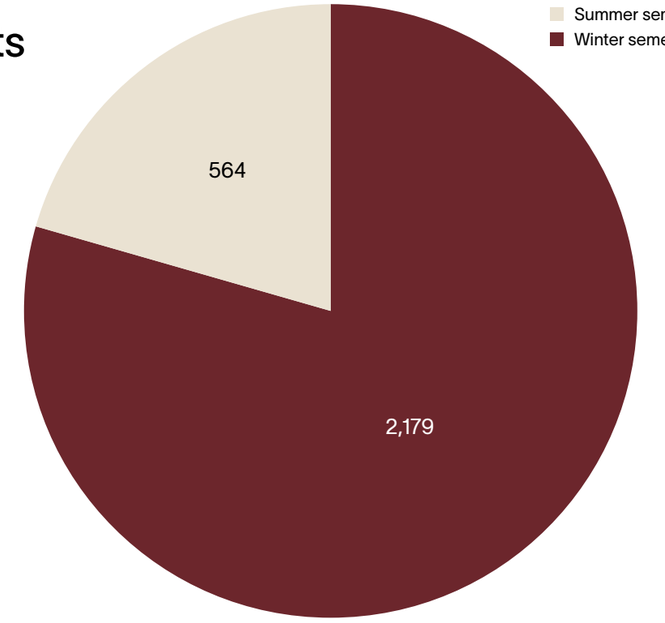
Retirements

PROFESSORS	FACULTY	SUBJECT AREA
Prof. Dr. Edith Burger	Social Sciences	Educational science, esp. group pedagogy
Prof. Dr. Ulrike Detmers	Bielefeld School of Business	Business administration, esp. human resources and organisation
Prof. Dr. Swetlana Franken	Bielefeld School of Business	General business administration, human resources management and key management skills
Prof. Dr.-Ing. Raimund Kisse	Engineering and Mathematics	Design theory (machine elements), engineering mechanics
Prof. Dr. Karl Rose	Minden Campus	Construction management, esp. cost accounting and construction organisation
Prof. Susanne Wiegand	Design and Art	Plastic arts and objects

Appointments

PROFESSORS	FACULTY	SUBJECT AREA
Prof. Dr. Rena Amelung	Health	Biomedical fundamentals
Prof. Dr. Marcel Beckmann	Engineering and Mathematics	Energy technology
Prof. Dr. Nadine Madeira Firmino	Social Sciences	Educational science with a focus on early childhood didactics
Prof. Dr. Tim Middendorf	Social Sciences	Social work in the context of precarious life situations
Prof. Dr. Antje Müller-Kirchenbauer	Campus Minden	Geotechnics and environmental geotechnics
Prof. Dr. Kathrin Papmeyer	Bielefeld School of Business	General business administration, esp. human resources management and organisation
Prof. Dr. Alexander Scheidt	Social Sciences	Educational science with a focus on counselling, quality development and organisation in childhood education systems
Prof. Dr. Jan Schilling	Bielefeld School of Business	Personnel and organisation psychology, esp. leadership and organisation development
Prof. Katharina Stephan	Social Sciences	Cultural education with a focus on theatre and performance in childhood education and social fields of action

First-Year Students
→ 2,743



Current Study Programmes at HSBI

in the winter semester 2022/23

→ by degree

Bachelor	41
Master	28

→ by faculty

	TOTAL
Design and Art	3
Minden Campus	12
Engineering and Mathematics	24
Social Sciences	3
Bielefeld School of Business	20
Health	7

→ by study location

Bielefeld	46
Gütersloh	10
Minden	13

→ by study model

Full-time degree	44
Part-time degree	1
Collaborative	2
With professional qualification	1
Work-integrated	11
Part-time combined	10
… thereof continuing education	6

Subsidies of North Rhine-Westphalia (NRW)

Basic funding NRW [1]

€ 69,784,200

[1] Statutory funds that are transferred to the university's assets without conditions upon allocation and that do not require activity-based accounting.

Programme / Project Funding NRW

(excluding Higher Education Pact, Zukunftsvertrag "Studium und Lehre stärken" [Future Pact "Strengthening Study and Teaching"], subsidies)

Faculty of Design and Art	-
Faculty of Minden Campus	€ 105,047
Faculty of Engineering and Mathematics	€ 637,236
Faculty of Social Sciences	€ 331,027
Bielefeld School of Business	€ 433,231
Faculty of Health	€ 4,241,424
Central projects	€ 2,183,737
HSBI total	€ 7,931,702

Third-Party Funds

Faculty of Design and Art	€ 103,774
Faculty of Minden Campus	€ 872,090
Faculty of Engineering and Mathematics	€ 5,349,988
Faculty of Social Sciences	€ 693,257
Bielefeld School of Business	€ 1,187,516
Faculty of Health	€ 948,316
Central projects	€ 3,484,272
HSBI total	€ 12,639,213

€ 3,685,782
Other revenues[3]

€ 19,749,752

Programme/project funding NRW

(including Higher Education Pact, Zukunftsvertrag "Studium und Lehre stärken" [Future Pact "Strengthening Study and Teaching"], subsidies)

€ 12,639,213

Third-party funds

€ 6,392,086

Statutory benefits NRW[2]

[2] e.g. quality improvement funds, Future Fund
[3] e.g. rentals and loyalties of premises, buildings and machines, service charges or late fees

Study Models

Full-time studies

Full-time studies are the “classic” university studies with classroom teaching during the lecture period as well as their preparation and follow-up work, written examinations and possibly term papers during the lecture-free period. Depending on the study programme, there are also practical projects, internships or additional offers such as language courses.

Part-time studies

These are studies that, due to their duration and workload, permit students to work in a regular job alongside studies. It also takes into account the aspect of the “family-friendly university.” The contents from the full-time degree are thus spread out over a higher number of semesters.

Part-time studies also comprise study offers such as combined studies, in which elements of distance learning are combined with classroom teaching, which usually takes place on Saturdays during the lecture period. Thus, the studies can be combined with a full-time job or an apprenticeship. HSBI offers both bachelor’s and master’s degree studies as part-time studies.

Work-integrated studies

During work-integrated studies, students are enrolled at HSBI and employed in a company at the same time. Work terms in the company alternate approximately quarterly with academic terms at the university. On-the-job work can be done as part of vocational training or in a study-related internship. It is also possible to study while you work. In addition to study programmes from the fields of engineering and business, in which HSBI cooperates with companies, the university has also been offering the work-integrated bachelor’s degree study “Midwifery” since the winter semester 2021/22. In this study programme, the university cooperates with the Praxiszentren für angewandte Hebammenwissenschaft (PZHW) in Minden and Paderborn.

Dual studies with professional qualification

Since the winter semester 2020/21, HSBI has been offering the bachelor’s degree study “Nursing,” which includes professional qualification. The primary qualifying bachelor’s degree study combines university learning at HSBI with practical learning in a wide range of fields of nursing care. After completing their studies, students receive a higher-education degree (Bachelor of Science) as well as a professional qualification (qualified nurse).

Collaborative studies

This model combines a practical apprenticeship for skilled workers or journeymen with bachelor’s degree studies. The bachelor’s degree study in Mechanical Engineering in Bielefeld in the variant of collaborative studies is in combination with vocational and technical training in the metal industry. At Minden Campus, apprenticeship in a traditional occupation in construction is combined with the bachelor’s degree study in Civil Engineering. In the collaborative bachelor’s degree study “Health (Nursing),” studies are combined with professional training to become a nurse. In the collaborative bachelor’s degree study “Health (Therapy),” studies are combined with professional training to become an occupational therapist, speech therapist or physical therapist.

Continuing education (certificates)

Continuing education studies (certificates) are not bachelor’s or master’s degree studies, but consist of structured units (e.g. courses) and conclude with a continuing education certificate. In principle, persons who have successfully completed a university degree are eligible for these studies.

Members of the Executive Board, University Council and Senate 2022

Executive Board

President: Prof. Dr. Ingeborg Schramm-Wölk

Vice President for Finance and Personnel Management: Gehsa Schnier

Vice President for Study and Teaching: Prof. Dr. Michaela Hoke

Vice President for Research and Development: Prof. Dr. Anant Patel

Vice President International Affairs and Digitalisation: Prof. Dr. Ulrich Schäfermeier

Vice President Sustainability, People & Culture: Prof. Dr. Natalie Bartholomäus

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Lecturer for special assignments: Kirsten Rudgalwis

Academic and scientific staff: Ilka Henschen, Angela Kreienkamp

Technical and administrative staff: Nicole Mosebach, Christel Sander

Students: Ann Mailin Filla, Klara Johanna Schüler, Yusuf Sert

University Council

Chair: Prof. Dr. Marianne Assenmacher

Vice Chair: Christiane Claus

Further members: Dr. Silvia Bentzinger, Anja-Christina Horstmann, Matthias Neu, Dr. Eberhard Niggemann, Dr. Sebastian Schmidt-Kaehler, Prof. Dr. Ursula Walkenhorst

Research Networks

AMMO – Applied Mathematical Modelling and Optimisation

In the AMMO research area, the competence in various application fields of mathematical modelling and optimisation is pooled, which, together with the joint research activities, makes it possible to workon more extensive joint projects. Mathematical methods for the different applications are pooled in order to provide a considerable repertoire of possible solutions to current problems. For example, a logistics problem may be solved better or faster than with the conventional method by a suitable combination of a conventional solution method with optimisation methods from other specialist disciplines. Conversely, there is also the possibility of using a special application method for different problems.

Bielefeld Institute for Applied Materials Research (BIfAM)

The expertise of the scientists participating in BIfAM from the disciplines of physics, chemistry, biology, biotechnology, computer science, mechanical engineering, process engineering and electrical engineering range from measurement technology, functional layers, energy transmission and sensor technology to material analysis, additive manufacturing and formulations, right through to computer aided modelling and simulation.

The scientific and technical work at BIfAM encompasses research and development in equal measure in order to meet the major societal challenges with innovative approaches – from fundamental research to novel materials, material and technology development to product and process development. In interdisciplinary teams, creative solutions are developed in the current areas of mobility, medical technology, energy and resource efficiency, digitalisation, bioeconomy and sustainability.

CareTech OWL. Center for Health, Social Affairs and Technology

HSBI is raising regional health care to a new and forward-looking level with a novel concept of user-oriented and health-related technology research. CareTech OWL's format combines aspects of basic social, nursing, medical and therapeutic care and brings together people in need of support and their families with nursing staff, medical professionals, therapists, engineers and company representatives from the medical supply industry as well as other partners from the OWL health region in one place. Here, health-related questions are intended to be answered jointly in a closely interlinked ecosystem of practices, laboratories, sample environments and workshops. The center involves students from the fields of health, social sciences and engineering, thus creating an innovative transfer culture that, from basic and application research to acute individual solutions, creates and provides lean, demand-oriented formats for the preservation of the population's health.

Center for Entrepreneurship (CFE)

The CFE is the central coordination point for start-up funding at HSBI and makes a major contribution to establishing a sustainable start-up culture. The interdisciplinary institution supports students, academic staff and professors of HSBI extensively at all stages of the start-up process. The measures range from curricular and extra-curricular (teaching) offers to concrete support through an own incubator, coaching and mentoring programme. Members of the university will thus receive concrete assistance in the search, validation and implementation of innovative and sustainable ideas. In addition, extensive networking with the regional start-up ecosystem makes it easier for entrepreneurs to enter the market in a needs-based way. The CFE is funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and by the Ministry of Economic Affairs, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia within the scope of the programmes "EXIST-Potentiale" and "Exzellenz Start-up Center.NRW," respectively.

Center for Applied Data Science Gütersloh (CfADS)

The CfADS research network at Gütersloh Campus explores and designs the digital data world of companies and institutions. It focuses on the application- and implementation-oriented execution of innovative research and development projects in the field of data acquisition, preparation and analysis, for example for the digitalization and optimization of work and business processes. CfADS is funded by the European Regional Development Fund (ERDF) and the federal state of NRW within the framework of the "Research Infrastructures" competition.

Center for Interdisciplinary Materials Research and Technology Development (CiMT)

As a joint project of HSBI and Bielefeld University, CiMT combines the complementary strengths of the research institutes "Bielefeld Institute for Applied Materials Research" (BIfAM, HSBI) and the "Bielefeld Institute for Nanoscience" (BINAS, Bielefeld University). In partnership with leading technological companies in the region, CiMT will be expanded into a complete R&D platform for applied materials research. It focuses on the development of more durable and resource-efficient materials and optimised industrial production processes with a high potential for saving raw materials.

Institute for Educational and Health-Care Research in the Health Sector (InBVG)

At InBVG, researchers from the fields of nursing, therapy and health sciences, medicine and vocational education and training work on current issues relating to societal challenges and issues. It focuses on issues related to demographic change and objectives such as health, well-being and social participation. Research and development projects at InBVG in education research aim at vocational education for health professions, digitalisation of educational processes, curriculum development and the development and evaluation of study and continuing education offers for educators at schools and companies in the health sector. Health-care research focuses on the promotion of health literacy and social participation, digitalisation in the health sector as well as the development and evaluation of user-oriented health care concepts for specific target groups, such as people with disabilities and chronic diseases, people in need of care and caregivers. The transfer of current research results to studies and teaching supports application-oriented teaching and learning in the field of health.

Institute for the Intelligent Building (InfinteG)

InfinteG focuses on research on living and working in intelligent buildings. To address this issue, interdisciplinary working groups are developing concepts that can be used to renovate and redesign buildings to meet future demands for well-being and functionality. The research activities are structured in the three areas of "Work and well-being in the intelligent building," "Sensor data fusion in the intelligent building" and "Dynamic escape route management." The institute developed from the former research focus "InteG-F: Building Technologies under One Roof."

Institute for System Dynamics and Mechatronics (ISyM)

For 10 years, ISyM has been a respected partner for companies as well as scientific and public institutions in developing novel, innovative technical systems that contribute to efficiently solving challenging technological questions. These questions have increasingly resulted from key societal challenges of our time and require interdisciplinary approaches as offered by mechatronics due to their complexity. The institute's members pool their expertise from the mechatronic domains of electrical engineering, control engineering, computer science and mechanical engineering to develop systems in synergy that can

fulfil tasks efficiently or even autonomously due to their ability to interact, adapt and cooperate. In the design of sustainable mechatronic systems, using interdisciplinary approaches provides the fundamental added value, e.g. using methods from artificial intelligence, machine learning and automation to create forward-looking solutions for applications in the industrial, mobility and health care sectors.

Institute for Technical Energy Systems (ITES)

The Institute for Technical Energy Systems (ITES) conducts research – currently in five key subject areas – into solutions for designing future-oriented and intelligent energy concepts as well as the development of the necessary technologies. The interdisciplinary team has extensive project experience in smart mobility, smart energy, smart interfaces, smart light and smart textiles. The research fields include energy storage, conversion and management, circular economy, mobility and lightweight construction, textile technologies and intelligent human-machine interaction.

Interdisciplinary Research and Application Development in Environmental Informatics (IFE)

The research focus IFE combines the already existing expertise of the participating professorships in an interdisciplinary research team from the fields of computer science, IT security, physics and measurement technology with the aim of contributing to the development of climate-friendly residential buildings. Special emphasis is placed on the renovation of existing properties taking into account the needs of the residents.

Mieletec HSBI

Mieletec HSBI is a long-term cooperation in the field of research into methods, processes and concepts for innovative home appliances. The aim of the project is a permanent scientific cooperation for a joint acquisition of knowledge in the fields of electrodynamics, thermodynamics and fluid mechanics. In these areas, it aims to jointly develop scientific foundations and to advance the expansion of forward-looking innovative know-how with regard to processes and methods in household appliances with the objective of optimizing these processes and methods, in particular in terms of increasing resource efficiency and boosting the benefits for potential end users.

Short Profiles

Faculty of Minden Campus

Location: Artilleriestrasse 9, 32427 Minden
Dean: Prof. Dr.-Ing. Oliver Nister
Vice Dean: Prof. Dr. Christoph Thiel
Bachelor's degree studies: Architecture, Civil Engineering (full-time/collaborative), Electrical Engineering (work-integrated), Computer Science, Infrastructure Engineering, Mechanical Engineering (work-integrated), Project Management Construction, Business Administration and Engineering (work-integrated)
Master's degree studies: Computer Science, Integral Construction, Integrated Technology and System Development (part-time), Integrated Technology and System Development (full-time)
Institute: Institute for the Intelligent Building (InfinteG)
Research focus: Interdisciplinary Research and Application Development in Environmental Informatics (IFE)
Number of laboratories/workshops: 23

Faculty of Design and Art

Location: Lampingstrasse 3, 33615 Bielefeld
Dean: Prof. Dirk Fütterer
Vice Dean: Prof. Patricia Stolz
Bachelor's degree study: Design
Master's degree study: Design
Fields of study: Digital Media and Experiment, Photography and Visual Media, Communication Design, Fashion
Research focus: Perception forms of photography
Number of laboratories/workshops: 8

Faculty of Health

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. PH Michaela Brause
Vice Dean: Prof. Dr. phil. Änne-Dörte Latteck
Bachelor's degree studies: Midwifery (work-integrated), Mentorship, Preceptorship and Counseling in Nursing [discontinued], Mentorship, Preceptorship and Counseling in Therapy [discontinued], Health, Health (Nursing/collaborative), Health (Therapy/collaborative), Nursing (dual) [discontinued], Nursing (with professional qualification)
Master's degree studies: Vocational Education Science for Health Professions, Advanced Nursing Practice (part-time)
Certificates: Digitalisation in Health – Developments and Challenges, Fields of Action for Vocational Teachers in the Health Sector, Management and Development of Health-Sector Schools
Institute: Institute for Educational and Health-Care Research in the Health Sector (InBVG)
Number of laboratories/workshops: 2

Faculty of Engineering and Mathematics

Locations: Interaktion 1, 33619 Bielefeld
Gleis 13, Langer Weg 9a, 33332 Gütersloh
Schulstrasse 10, 33330 Gütersloh
Biotechnology and Instrumentation Engineering, Universitätsstrasse 27, 33615 Bielefeld
Dean: Prof. Dr.-Ing. Rolf Naumann
Vice Deans: Prof. Dr.-Ing. Andrea Kaimann (Vice Dean Gütersloh Campus), Prof. Dr.-Ing. Joachim Waßmuth (Vice Dean for Study and Teaching), Prof. Dr. Axel Schneider (Vice Dean for Research, Development and Transfer)
Bachelor's degree studies: Applied Mathematics, Biotechnology and Instrumentation Engineering, Digital Rail Systems, Digital Logistics (work-integrated), Digital Technologies (work-integrated), Electrical Engineering,
Electrical Engineering (part-time), Engineering Computer Sciences, Mechanical Engineering (full-time/collaborative), Mechanical Engineering (part-time), Mechatronics/Automation (work-integrated), Mechatronics, Product-Service Engineering (work-integrated),
Renewable Energies, Industrial Engineering and Management, Industrial Engineering and Management (work-integrated)
Master's degree studies: Applied Automation (part-time), BioMechatronics, Data Science (Master of Applied Research), Digital Technologies (part-time), Electrical Engineering, Mechanical Engineering, Optimisation and Simulation, Industrial Engineering and Management (part-time)
Institutes: Bielefeld Institute for Applied Materials Research (BifAM), Institute for System Dynamics and Mechatronics (ISyM),
Institute for Technical Energy Systems (ITES)
Research foci: Applied Mathematical Modelling and Optimisation (AMMO), Individualisation in Health and Technology (InGeTec)
Research networks: CareTech OWL, Center for Applied Data Science Gütersloh (CfADS), Center for Interdisciplinary Materials Research and Technology Development (CiMT)
Research laboratory in cooperation with a company: Mieletec
Number of laboratories/project rooms: 124

Faculty of Social Sciences

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. Michael Stricker
Vice Dean: Prof. Dr. Diana Jost (since 16/05/2022)
Prof. Dr. Erika Schulze (until 15/05/2022)
Bachelor's degree studies: (Early) Childhood Education, Social Work
Master's degree study: Social Transformation Studies
Number of laboratories/workshops: 2

Bielefeld School of Business

Location: Interaktion 1, 33619 Bielefeld
Dean: Prof. Dr. Riza Öztürk
Vice Dean: Prof. Dr. Peter Hartel
Bachelor's degree studies: Business Administration, Business Administration (part-time), Business Administration (work-integrated), International Studies in Management, Business Information Systems, Business Information Systems (work-integrated), Business Psychology, Business Law
Master's degree studies: Controlling Finance Accounting, General Management (part-time, MBA), International Business Management, Management for Engineering and Natural Sciences (part-time, MBA), Marketing and Sales, Human Resource Management and Organisation, Production and Logistics, Taxation and Audit, Business Information Systems, Business Psychology, Business Law and Contract Drafting
Certificates: Compliance Manager Digitisation and Law, Doing Business in ..., International Project Management
Number of laboratories: 1

Research Projects

Faculty of Design and Art

A Portrait of the Artist as a Young Mother – Maternity as a Constructed Image
Duration: 2021–2023
Prof. Katharina Bosse

Working Worlds in Fashion/Textile and Fashion Production in Europe
Duration: 01/10/2021–01/03/2022 / Prof. Philipp Rupp

Bielefeld-Bilder (Images of Bielefeld)
Duration: 2021–2022 / Prof. Dr. Andreas Beaugrand

Broken Vinyl. Audiovisual Performance Tokyo, Berlin, Chemnitz
Duration: 2020–2023 / Prof. Claudia Rohrmoser

Everybody Can Be
Duration: 2021–2023 / Prof. Katharina Bosse

Fred Schierenbeck. Raum. Farbe. Zeit. (Space. Colour. Time.) Painting and picture objects.
Duration: 2021–2022 / Prof. Dr. Andreas Beaugrand

Michael Plöger. Hommage an das Leben. (Tribute to life.) Painting.
Duration: 2021–2023 / Prof. Dr. Andreas Beaugrand

PAGAnInl. Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments
↳ Duration: 01/09/2019–31/08/2023 / Prof. Patricia Stolz, Prof. Dr. Gudrun Dobslaw, Prof. Dr. Dominic Becking, Prof. Dr. Udo Seelmeyer

Retropolis. The European cityscape influenced by reconstruction
Duration: 2021–2024 / Prof. Roman Bezjak

The American Night – Cinematic Portraits
Duration: 2017–2024 / Prof. Katharina Bosse

The Femx Photographer's Road Trip
Duration: 2014–2025 / Prof. Katharina Bosse

Thingstätten – Publication and Database
Duration: 2014–2024 / Prof. Katharina Bosse

From Buxtehude to Bergamo. 1930s Photography by Friedrich Hülsmann
Publication, 2 Exhibitions, Website, Presentation
Duration: 2019–2022 / Prof. Dr. Anna Zika

ZwischenBild
Duration: 2021–2023 / Prof. Emanuel Raab

Faculty of Minden Campus

Augmented Reality Interaction for Three-Dimensional Restriction of Robot Work Areas in Consideration of Semantic Information
Duration: 01/02/2022–31/01/2025
Prof. Dr. Dr.-Ing. Matthias König

Building Materials Testing and Building Materials Technology
Duration: ongoing since 2022
Prof. Dr.-Ing. Heiko Twelmeier

Assessment of the Surface Layer in Preußisch Oldendorf
Duration: 01/04/2022–31/12/2022
Prof. Dr.-Ing. Johannes Weinig, Prof. Dr.-Ing. Heiko Twelmeier

Irrigation of Agricultural Areas with Effluents From Sewage Plants
Duration: 15/10/2022–15/07/2023
Prof. Dr.-Ing Johannes Weinig

BIMiB Load-Bearing System
Duration: 01/05/2019–31/10/2023
Prof. Dr. Dominic Becking

Dungeon – Games Framework for Digital Based Learning
Duration: 01/09/2022–31/08/2023
Prof. Dr.-Ing. Carsten Gips

Dynamic Runtime Environment for Organic (Dis) Aggregating IoT Processes (DORIOT)
Duration: 01/05/2019–31/07/2022
Prof. Dr. Dr.-Ing. Matthias König

Development and Evaluation of an Intervention to Avoid Rebound Effects Triggered by Energy-Oriented Renovation (Environ)
Duration: 01/09/2018–15/04/2022 / Prof. Dr.-Ing. Grit Behrens, Prof. Dr. Sebastian Bamberg

Experience from the Operation of a Partially Insulated Downhole Heat Exchanger
Duration: ongoing since 09/2016 / Prof. Dr.-Ing. Hans-Georg Gülzow, retired since winter semester 22/23

International Building Performance Evaluation (IBPE)
Duration: ongoing since 1997
Prof. Dr.-Ing. Ulrich Schramm

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnInl)
Duration: 01/09/2019–31/08/2023 / Prof. Dr. Dominic Becking, Prof. Dr. Gudrun Dobslaw, Prof. Dr. Udo Seelmeyer, Prof. Patricia Stolz

Pipe Network Configurator
Duration: 01/05/2021–30/04/2022
Prof. Dr.-Ing. Carsten Gips

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024 / Prof. Dr. Udo Seelmeyer, Prof. Dr. Dominic Becking

Partially Automatic Generation of 3-D Models from 2-D Drawings Using Methods of Machine Learning and Spatial Reasoning (AutoBuild3D)
Duration: 01/11/2019–28/02/2022
Prof. Dr.-Ing. Michael Eisfeld, Prof. Dr.-Ing. Carsten Gips

Investigations of the Electromagnetic Compatibility of Components and Systems
Duration: ongoing since 2022
Prof. Dr.-Ing. Sven Battermann

Faculty of Engineering and Mathematics

Additive Production of Heat Pipe Injection Molding Tools (AMHeaP)
Duration: 01/03/2021–30/11/2023
Prof. Dr.-Ing. Christoph Jaroschek

AI for Scarce Data – Machine Learning and Information Fusion for the Sustainable Use of Lab and Client Data (AI4ScaDa)
Duration: 01/04/2022–31/03/2025
Prof. Dr.-Ing. Martin Kohlhase

AI4DG: AI-on-the-Edge for a Safe and Autonomous Control of the Distribution Grid With a High Proportion of Renewable Energies
Duration: 01/10/2021–30/09/2024
Prof. Dr.-Ing. Jens Haubrock

A Modelica-based Systems Biology approach to engineer the cell's decision between growth, storage, and secondary metabolites (MoSysBl)
Duration: ongoing / Prof. Dr. Bernhard Bachmann

Application-Oriented Industrial IoT Platform for the Center for Applied Data Science Gütersloh
Duration: 01/11/2018–30/09/2022
Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Pascal Reusch, Prof. Dr.-Ing. Wolfram Schenck

Audiovisual Support Through a Cognitive and Mobile Assistance System for the Modern Working World (AVIKOM)
Duration: 01/05/2019–31/12/2022
Prof. Dr.-Ing. Joachim Waßmuth

Building a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–30/06/2023
Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Pascal Reusch, Prof. Dr.-Ing. Wolfram Schenck

Autonomous AI for cellular energy systems increasing flexibilities provided by sector coupling and distributed storage (AI-flex)
Duration: 01/06/2022–31/05/2025
Prof. Dr.-Ing. Jens Haubrock

Biotechnical Control of the Invasive Brown Marmorated Stink Bug Halyomorpha halys in Organic Fruit and Vegetable Production Using the Push-Pull-Kill Method Based on Aggregation Pheromones Combined with Kairomones (BIOBUG)
Duration: 01/05/2022–30/04/2025 / Prof. Dr. Anant Patel

CellActive: Development of a Plasma/UV Treatment for Surface Hydrophilization of Cell Culture Scaffolds to Improve Cell Adhesion of Adherent Cells and Stem Cells
Duration: 01/04/2021–30/09/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

Center for Interdisciplinary Materials Research and Technology Development (CIMT)
Duration: 01/07/2019–31/12/2022 / Prof. Dr. Sonja Schöning, Prof. Dr.-Ing. Bruno Hüsgen, Prof. Dr.-Ing. Thomas Kordisch, Prof. Dr. Christian Schröder

Co-Cultivation of Microalgae with Synergistic Bacteria (COMBINE)
Duration: 01/02/2019–30/04/2023 / Prof. Dr. Anant Patel

Coloured Petri Nets (CPN)
Duration: ongoing since 01/09/2012
Prof. Dr. Bernhard Bachmann

DeepPRO – Multi-Criteria Optimization of Industrial Production Planning Using Simulation and Self-Learning Algorithms
Duration: 01/12/2020–30/04/2023
Prof. Dr.-Ing. Jürgen Sauser

Didactic Further Development of Risk Analysis and Risk Modeling for Teaching Stochastics
Duration: ongoing / Prof. Dr. Claudia Cottin

Digital Determination of Therapy Success in the Field of Compression Therapy (THERAFOLG-KOMP)
Duration: 01/08/2018–30/09/2022 /
Prof. Dr. Dr. hab. Andrea Ehrmann

Digitalization of a Process Chain for the Production, Characterization and Prototypical Application of Magnetocaloric Alloys (DiProMag)
Duration: 01/02/2021–31/01/2024
Prof. Dr. Christian Schröder

Discrete Modelling and Optimization of Processes with Petri Nets Relevant for Practical Application
Duration: ongoing since 01/04/2013 / Dr. Sabrina Proß

A production site closes circuits (CirQualityOWL)
Duration: 17/09/2019–31/12/2022 /
Prof. Dr.-Ing. Eva Schwenzfeier-Hellkamp

Development of the Plant Technology for the Introduction of Layer Density and the Preparation of Polymer Powders in Laser Sintering
Duration: 01/07/2022–30/06/2024
Prof. Dr.-Ing. Bruno Hüsgen

Development of a Plant for the Storage and Reconversion of Excess Electrical Energy (CCHS)
Duration: 08/04/2020–30/09/2022
Prof. Dr.-Ing. Jürgen Hermeler

Development of a Modelling and Calculation Environment with Its Own Library for Optimization Tasks
Duration: ongoing since 2009 / Jens Schönbohm

Development of a Compiler Backend for the Programming Language Modelica
Duration: ongoing / Jens Schönbohm

Development of High-Performance Flywheel Mass Storage Based on a Steel Belt Spiral (Flywheel Mass Storage)
Duration: 15/03/2022–14/09/2022
Prof. Dr. Lars Fromme

Development of an Intelligent Curtain Fan Sensor System to Optimize the Thermal Comfort of Cattle (iCurS)
Duration: 01/08/2019–31/01/2023
Prof. Dr.-Ing. Eva Schwenzfeier-Hellkamp

Development of a Model to Predict the Aging of Laminated Safety Glass
Duration: 01/10/2021–01/01/2024
Prof. Dr.-Ing. Bruno Hüsgen

Development of Holistic Formulation Methods for the Biological Crop Protection of Berries (HOPE)
Duration: 15/04/2021–14/04/2024 / Prof. Dr. Anant Patel

Development and Use of Smart Fertilizers for Organic Blueberry Cultivation
Duration: 05/02/2019–15/08/2022 / Prof. Dr. Anant Patel

Development and Qualification of a 3D-Printed Hybrid Tool Element (AMHyTo)
Duration: 16/11/2021–15/05/2022
Prof. Dr.-Ing. Christoph Jaroschek

Development and Validation of an AI-Based System for the Autarkic Control of Intelligent Cellular Grids (KI Grid)
Duration: 01/01/2020–31/03/2023 /
Prof. Dr.-Ing. Jens Haubrock

Development of Innovative Formulation Methods Using Beneficial Fungi as Novel Plant Fortifiers for the Potato Crop Rotation (FORK)
Duration: 01/10/2019–31/12/2023 / Prof. Dr. Anant Patel

Research and Development to Cultivate Microalgae and Mosses on Textile Substrates outside a Bioreactor for Urban Greening and Improvement of the Indoor Climate (TUAM)
Duration: 01/02/2021–31/07/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

ExperiMint DiGiTal
Duration: 01/01/2020–31/08/2022
Prof. Dr. Mariam Dopslaf, Prof. Dr.-Ing. Jörg Nottmeyer

Foamdynamics
Duration: 01/09/2021–31/10/2022
Prof. Dr. Martin Petry

Research Campus OHLF: HyFiVe; Subproject: Electromagnetic Shielding Semi-Finished Products
Duration: 01/08/2022–31/12/2024
Prof. Dr.-Ing. Angela Ries

Research Cooperation with the Company Stiegelmeyer GmbH & Co. KG
Duration: 01/04/2018–31/03/2024
Prof. Dr. Axel Schneider, Prof. Dr.-Ing. Joachim Waßmuth, Prof. Dr.-Ing. Rolf Naumann

Research Grant for the Georg Forster Research Scholarship of Dr. Amir Bahri
Duration: 01/04/2021–31/03/2023
Prof. Dr.-Ing. Thomas Kordisch

HaekelMasch: Development of a Functional and Fully Automated Crochet Machine
Duration: 01/02/2021–31/07/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

Human-Centered Smart Service Lab – Establishing a Human-Centered Smart Service Lab for the Center for Applied Data Science
Duration: 01/11/2019–30/06/2023
Prof. Dr.-Ing. Wolfram Schenck

Hybrid Models to Precisely Predict Joint Torques/ Movements Based on sEMG Measurements for Wearable Robotics
Duration: 01/01/2018–31/08/2022
Prof. Dr. Axel Schneider

Implementation of Heatpipe Temperature Control in Rheology Software for Plastics (SimHeaP)
Duration: 01/08/2022–31/07/2024
Prof. Dr.-Ing. Christoph Jaroschek

Intelligent Cooking (InGa)
Duration: ongoing since April 2010
Prof. Dr. Christian Schröder, Prof. Dr. Sonja Schöning

Next-Generation Intelligent Technical Systems Based on Machine Learning (ITS.ML)
Duration: 01/08/2018–31/01/2022
Prof. Dr. Axel Schneider, Prof. Dr.-Ing. Wolfram Schenck

Interprofessional from the Outset: Biology – Engineering – Health
Duration: 01/10/2019–14/06/2022
Prof. Dr. Lars Fromme, Prof. Dr. Annette Nauerth, Prof. Dr.-Ing. Joachim Waßmuth

Kids Go Digital – Improving Digital Infrastructure in experiMINT diGiTal
Duration: 01/04/2022–31/12/2022
Prof. Dr.-Ing. Jörg Nottmeyer, Prof. Dr. Mariam Dopslaf

AI for the Working Environment of Industrial Medium-Sized Businesses (KIAM Competence Center)
Duration: 01/10/2020–30/09/2025
Prof. Dr. Swetlana Franken, Prof. Dr.-Ing. Martin Kohlhase

AI-Based Assistance to Promote Decentralised Inclusion (KIAssist)
Duration: 01/08/2022–31/07/2026
Prof. Dr. Alexander Maier

AI-Supported Platform for the Classification and Sorting of Plant Seeds: Evaluation of Seed Purity with Rapeseed as a Test Case (KIRa)
Duration: 21/05/2021–20/05/2024
Prof. Dr.-Ing. Reinhard Kaschuba

MagnetoShield: Development of Flexible Materials from Partially Conductive Carrier Textiles as Well as Nanofiber Mats with Magnetic Nanoparticles for Shielding Static Magnetic Fields up to 100 mT and Damping of EM Fields from 50 Hz by > 12 dB
Duration: 01/12/2021–30/11/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

Machine Intelligence for the Prediction of Interaction Based on Motion Information (MIPIB)
Duration: 01/04/2021–30/09/2022
Prof. Dr.-Ing. habil. Thorsten Jungeblut

Measuring and Predicting the Aging of Laminated Safety Glass
Duration: 01/10/2021–01/10/2023
Prof. Dr.-Ing. Bruno Hüsgen

Method Project for the Development of a Smart Service for Predictive and Proactive Production Planning and Control Using AI Methods (Predictive Scheduling)
Duration: 01/11/2019–30/06/2023
Prof. Dr. Pascal Reusch

Method Project for the Development of a Worker Assistance System for Quality Forecasting in Industrial Production ("Predictive Quality")
Duration: 01/11/2019–30/06/2023 / Prof. Dr.-Ing. Martin Kohlhase

MINTernational vs. Local
Duration: 11/04/2022–31/12/2023 / Prof. Dr. Mariam Dopslaf

ML4Pro2 – Machine Learning for Production and Its Products
Duration: 01/12/2018–31/03/2022
Prof. Dr.-Ing. Wolfram Schenck

Model-Based Development of an Energy-Efficient ACC System for Electric Vehicles Taking into Account V2V/V2X Communication (eco.ACC)
Duration: 01/06/2021–31/05/2022 / Prof. Dr.-Ing. Peter Reinold

MonoCab OWL: Construction and Demonstration of MonoCabs
Duration: 01/09/2020–30/06/2023 / Prof. Dr.-Ing. Rolf Naumann

MOSES – Modular Hardware/Software Platform for the Flexible Use of Modern Sound Source Localization Algorithms
Duration: 01/12/2018–31/10/2022
Prof. Dr.-Ing. Joachim Waßmuth

Network Study Bioeconomy
Duration: 01/11/2021–31/12/2022
Prof. Dr. Frank Gudermann

New Integrated Mobility in Urban-Rural Areas
Duration: 09/12/2019–31/12/2024
Prof. Dr. Rolf Naumann

Neuro-Inspired Resource-Efficient Hardware Architectures for Plastic SNNs (NireHApS)
Duration: 01/02/2021–30/11/2024
Prof. Dr.-Ing. Thorsten Jungeblut

OpenModelica Simulation Development Project
Duration: 01/09/2012–31/03/2023 / Prof. Dr. Bernhard Bachmann

Optimising the Care of Patients With Diabetic Foot Syndrome Through Hybrid Interaction Systems (HIS4DiaPedes)
Duration: 15/07/2022–14/07/2025 / Prof. Dr. Martin Kohlhase, Prof. Dr. Wolfram Schenk, Prof. Dr. Lutz Grünwoldt, Prof. Dr. Annette Nauerth, Prof. Dr. Beate Klemme, Prof. Dr. Rena Amelung, Prof. Dr. Ismail Özlü

Parallax in Electric Fields (PERFEcto)
Duration: 01/02/2020–15/10/2022
Prof. Dr. Axel Schneider

PHyMoS – Proper Hybrid Models for Smarter Vehicles
Duration: 01/03/2021–29/02/2024
Prof. Dr. Bernhard Bachmann

Plan4BHKW – Optimized Operational Management for Combined Heat and Power Plants
Duration: 01/01/2022–31/12/2022
Prof. Dr.-Ing. Jens Haubrock

Power2Load – Intelligent Automation to Expand Charging Points for Electric Vehicles and Reduce CO2 by Shifting Loads and Increasing the Share of Renewables in the Charging Current for Electrified Company Cars (Power2Load)
Duration: 01/11/2019–31/03/2023
Prof. Dr.-Ing. Jens Haubrock

Identifying and Classifying Progression Markers: A Method to Measure Inactive HIV Pathogens in HIV Reservoirs in HIV Patients
Duration: 15/12/2020–14/12/2023 /
Prof. Dr. Dirk Lütkemeyer

Psychoacoustic Metrics for the Automated Evaluation of Mechatronic Systems Using the Example of Electric Motors (PsyMe)
Duration: 01/04/2021–30/09/2022
Prof. Dr.-Ing. Joachim Waßmuth

Radar-Based Patient Monitoring in an Intelligent Medical Bed
Duration: 08/04/2020–30/06/2022
Prof. Dr.-Ing. Thomas Hesse

Renephro
Duration: 01/10/2021–31/03/2023
Prof. Dr. Dirk Lütkemeyer

Robust Individualization of Smart Sensors through Transfer-Learning-Based Feature Selection (RoSe)
Duration: 01/02/2021–30/11/2024
Prof. Dr. Axel Schneider

Smart Demand Forecasting: Method Project for the Development of a Smart Service for an AI-Based Demand Forecast to Optimize the Customer/Supplier Interface in the Supply Chain of Industrial Medium-Sized Businesses
Duration: 01/11/2019–30/06/2023
Prof. Dr. Pascal Reusch

SolarFlex: Development of a Novel, Fully Textile-Integrated Solar Cell Based Exclusively on Non-Toxic Components for Use in Mobile and Static Stand-Alone Photovoltaic Installations
Duration: 01/04/2021–30/09/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

StereoTex: Development of a Porous (Volume Porosity >= 3%) Resin to 3D Print a Stab-Resistant Composite on Technical Textiles by Means of a Stereolithographic (SLA) Process
Duration: 01/06/2021–30/11/2023
Prof. Dr. Dr. hab. Andrea Ehrmann

Structure Description of Polypropylene
Duration: 01/12/2020–30/11/2022
Prof. Dr.-Ing. Angela Ries

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026 / Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Jens Haubrock, Prof. Dr. Gerrit Hirschfeld, Prof. Dr.-Ing. habil. Thorsten Jungeblut, Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Sustainable Production Planning and Control Based on Reinforcement Learning Technologies (SUPPORT)
Duration: 01/04/2022–31/03/2025
Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Pascal Reusch

Target-Specific RNA-Based Bioprotectants for Sustainable Crop Production in a Changing Climate (BioProtect)
Duration: 01/06/2021–31/05/2024 / Prof. Dr. Anant Patel

Technology and Didactics for Media in Teaching
Duration: ongoing
Prof. Dr. Jörn Loviscach

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024 / Prof. Dr. Udo Seelmeyer, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Validation of a Prescriptive Analytics Platform for the Smart Factory (VIP4PAPS)
Duration: 01/08/2022–31/07/2025 / Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr.-Ing- Wolfram Schenck

Young Researchers Cloud and Edge Computing Platform for AI (yourAI)
Duration: 01/01/2022–30/06/2023 / Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Hans Brandt-Pook, Prof. Dr. Stefan Berlik, Prof. Dr.-Ing. habil. Thorsten Jungeblut, Prof. Dr. Bernhard Wach

7dSh – A Cyanobacteria-Based Natural Sugar on the Way to a Sustainable Herbicide (7dSherbicide)
Duration: 01/09/2021–31/08/2024 / Prof. Dr. Anant Patel

Faculty of Social Sciences

Importance of Specific Music Apps for the Participation in Cultural Education of Young People and Young Adults with Complex Disabilities (be_smart)
Duration: 01/05/2018–31/03/2022
Prof. Dr. Juliane Gerland

Bots Building Bridges (3B): Theoretical, Empirical, and Technological Foundations for Systems That Monitor and Support Political Deliberation Online
Duration: 01/12/2020–30/11/2024
Prof. Dr. Udo Seelmeyer

co"gesund – Health Promotion of Educationally Disadvantaged Youth – A Feasibility Study for the Promotion of Resilience during the Covid-19 Crisis in the School and Vocational Preparation Settings
Duration: 01/11/2021–28/02/2023
Prof. Dr. Anna Lena Rademaker

Strengthening the Plural We in/of Society
Duration: 01/09/2021–31/03/2022
Prof. Dr. Cornelia Muth

The Hospital Social Services in Crisis Mode – Findings for a Future-Oriented Care through Social Work in the Interdisciplinary Team in OWL Post COVID-19 (postCOVID@owl)
Duration: 01/10/2021–30/09/2023
Prof. Dr. Anna Lena Rademaker

Digitalisation in Daycare Centres (Land NRW)
Duration: 01/03/2020–30/09/2022
Prof. Dr. Helen Knauf

Development and Evaluation of an Intervention to Avoid Rebound Effects Triggered by Energy-Oriented Renovation (Environ)
Duration: 01/09/2018–15/04/2022 / Prof. Dr. Sebastian Bamberg, Prof. Dr.-Ing. Grit Behrens

Evaluation of a Communication Campaign to Reduce Food Waste in Mexico (WWF Mexico)
Duration: 01/01/2022–31/03/2023 /
Prof. Dr. Sebastian Bamberg

Arrived Well – Strong Parents and Children in Primary Schools
Duration: 01/10/2021–31/08/2023
Prof. Dr. Yüksel Ekinci

Innovative Ways to Participate in Working Life – Rehapro Consulting – Encouraging – Assisting (BEA)
Duration: 01/12/2019–30/11/2024
Prof. Dr. Gudrun Dobslaw, Prof. Dr. Michael Stricker

Textbook "Supervision – Einführung für Studierende" (Supervision – An Introduction for Students)
Duration: 01/09/2019–30/09/2022
Prof. Dr. Gertrud Siller

Machine Decision Support in Welfare State Institutions: Technical Possibilities, Professional Use, Democratic Implications and Political-Legal Regulatory Requirements (MAEWIN)
Duration: 04/10/2017–31/12/2022
Prof. Dr. Udo Seelmeyer

Model Project Precarious Work in Bielefeld (PABi)
Duration: 01/05/2022–31/03/2023
Prof. Dr. Thomas Altenhöner

Personalized Augmented Guidance for the Autonomy of People with Intellectual Impairments (PAGAnInI)
Duration: 01/09/2019–31/08/2023 / Prof. Dr. Dominic Becking, Prof. Dr. Gudrun Dobslaw, Prof. Dr. Udo Seelmeyer, Prof. Patricia Stolz

Prevention of Sexual Violence: Strengthening Children's Resources and Establishing Protection Concepts
Duration: 01/05/2022–31/12/2023
Prof. Dr. Wolfgang Beelmann

Psychosocial Counselling for Refugee Children and Adolescents (Diakonie II)
Duration: 01/06/2021–31/05/2024 /
Prof. Dr. Michael Stricker

RESPOND! No to Anti-Semitism on the Internet! Development, Implementation and Evaluation of a Multiplier Training Course to Combat Anti-Semitic Hate Speech in Young People's Social Media – a Collaborative Project
Duration: 01/08/2021–31/07/2025
Prof. Dr. Gudrun Dobslaw

Stationary Telepresence Consultation in Rural Areas (STellaR)
Duration: 01/09/2020–31/08/2024 / Prof. Dr. Udo Seelmeyer, Prof. Dr. Dominic Becking

Transformation in Care and Technology (TransCareTech)
Duration: 01/11/2021–31/10/2024 / Prof. Dr. Udo Seelmeyer, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Female Addiction – Resilience in Women with Addictions and Their Coping Strategies in the Course of Their Lives (WuS)
Duration: 01/05/2021–31/03/2022
Prof. Dr. Katja Makowsky

Bielefeld School of Business

ADRIAN – Authority-Dependent Risk Identification and Analysis in online Networks
Duration: 15/05/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Analysis of Social Media for Lead Feneration (it's OWL transfer voucher)
Duration: 26/09/2022–22/12/2022
Prof. Dr. Hans Brandt-Pook

BlockWASTE
Duration: 01/10/2020–30/09/2022
Prof. Dr. Rainer Lenz, Bernd Kleinheyer

CfE2020
Duration: 01/04/2020–31/03/2024
Prof. Dr. Tim Kampe

DAbeKom – Database for Accrediting Professional Competences
Duration: ongoing / Prof. Dr. Axel Benning,
Prof. Dr. Heiko Burchert

The Quantum Internet in the Greater Munich Area (MuQuaNet)
Duration: 01/04/2021–31/12/2024
Prof. Dr. Hans Brandt-Pook, Dr. Frederik Bäumer

Data.LiteracySkills@OWL – DaLiS@OWL
Duration: 28/01/2020–31/12/2022
Prof. Dr. Daniel Antonius Hötte

DVO – Data-Driven Packaging Optimisation (it's OWL transfer voucher)
Duration: 01/11/2022–30/04/2023
Prof. Dr. Hans Brandt-Pook

Excellence Start-up Center OWL
Duration: 01/09/2019–31/08/2024
Prof. Dr. Uwe Rössler

Competence Centre Arbeitswelt.Plus (Working World.Plus)
Duration: 01/10/2020–30/09/2025
Prof. Dr.-Ing. Martin Kohlhase

LXP – Learning Experience Platform (it's OWL transfer voucher)
Duration: 01/10/2022–31/03/2023 / Prof. Dr. Christian Schwede, Prof. Dr. Hans Brandt-Pook

OER Content.NRW with the Module Introduction to Business Administration
Duration: 01/10/2020–30/09/2022
Prof. Dr. Andreas Stute

Optimised Crisis Communication after Attacks with an Islamist Background in Germany (OKAI)
Duration: 01/10/2020–30/09/2023
Prof. Dr. Gerrit Hirschfeld

Practical Projects in Business Information Systems
Duration: 01/10/2021–28/02/2022 / Prof. Dr. Hans Brandt-Pook, Prof. Dr. Alexander Förster, Prof. Dr.-Ing. Peter Hartel, Prof. Dr. Jörg-Michael Keuntje, Prof. Dr. Achim Schmidtmann, Prof. Dr. Volker Wiemann

Registration, Adherence and Data Availability of Clinical Trials in Germany – Time Trends and Structural Factors
Duration: 01/10/2018–31/03/2022
Prof. Dr. Gerrit Hirschfeld

Sovereignty in Digitalised Living Environments (SoDiLe)
Duration: 01/04/2021–31/03/2024
Prof. Dr. Axel Benning

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026
Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Jens Haubrock, Prof. Dr. Gerrit Hirschfeld, Prof. Dr.-Ing. habil. Thorsten Jungeblut, Prof. Dr.-Ing. Martin Kohlhase, Prof. Dr. Annette Nauerth, Prof. Dr. Axel Schneider

Transfer:Square (T^2) (it's OWL transfer pilot)
Duration: 01/12/2022–31/05/2024
Prof. Dr. Hans Brandt-Pook

Young Researchers Cloud and Edge Computing Platform for AI (yourAI)
Duration: 01/01/2022–30/06/2023 / Prof. Dr.-Ing. Wolfram Schenck, Prof. Dr.-Ing. Hans Brandt-Pook, Prof. Dr. Stefan Berlik, Prof. Dr.-Ing. habil. Thorsten Jungeblut, Prof. Dr. Bernhard Wach

Faculty of Health

In-Company Teaching and Learning in Health Professions
Duration: 01/07/2019–26/02/2023 / Prof. Dr. Beate Klemme
Prof. Dr. Marisa Kaufhold

Digital and Virtually Supported Case Work in Health Professions (DiViFaG)
Duration: 01/01/2020–31/12/2022
Prof. Dr. Annette Nauerth, Prof. Dr. Katja Makowsky

Development of (Digitally Assisted) Competence-Oriented Practical Exams (KoprA)
Duration: 01/09/2022–28/02/2024
Prof. Dr. Annette Nauerth, Prof. Dr. Patrizia Raschper

Video Tutorials to Improve Health Literacy in People with Intellectual Disabilities (Geko-MmgB)
Duration: 01/03/2020–28/02/2023
Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Norbert Seidl

FaPP-MgB Case Management and Care Expertise as a Prevention Approach for Adults with Intellectual Disabilities
Duration: 01/01/2022–31/12/2024
Prof. Dr. Änne-Dörte Latteck, Dr. Dirk Bruland

Making Health Easy – Designing Health Promotion in Workplaces and Homes
Duration: 01/05/2021–30/04/2024
Prof. Dr. Änne-Dörte Latteck, Dr. Dirk Bruland

Interprofessional from the Outset: Biology – Engineering – Health
Duration: 01/10/2019–14/06/2022
Prof. Dr. Lars Fromme, Prof. Dr. Annette Nauerth, Prof. Dr.-Ing. Joachim Waßmuth

KomVor Pflege – Competence Development through Digital OER Teaching and Study Materials for Specific Duties in Nursing: Planning, Controlling and Evaluating Nursing Processes
Duration: 01/04/2022–31/03/2024
Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Christa Büker

Model Project for the Creation of Digital Contact, Communication and Leisure Opportunities through the Expansion of Media Competence and the Essential Equipment in the Facilities and Services of Lebenshilfe Brakel (ROOKIE)
Duration: 01/10/2020–31/03/2022
Prof. Dr. Änne-Dörte Latteck

Optimising the Care of Patients With Diabetic Foot Syndrome Through Hybrid Interaction Systems (HIS4DiaPedes)
Duration: 15/07/2022–14/07/2025
Prof. Dr. Martin Kohlhase, Prof. Dr. Wolfram Schenck, Prof. Dr. Lutz Grünwoldt, Prof. Dr. Annette Nauerth, Prof. Dr. Beate Klemme, Prof. Dr. Rena Amelung, Prof. Dr. Ismail Özlü

Nursing and Care of People with Learning Difficulties from a Family Perspective
Duration: 01/07/2019–30/06/2023
Prof. Dr. Änne-Dörte Latteck

Planetary Health and Nursing – Concept Development for Nursing Studies
Duration: 01/09/2022–31/08/2023 / Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Christa Büker

Prevention and Rehabilitation for Caregivers (PuRpA): Overall Project Coordination and Cross-Sectional Analyses – Prevention and Rehabilitation for Caregivers – Importance of Target-Group-Oriented and User-Oriented Care Concepts
Duration: 01/10/2020–31/12/2023 / Prof. Dr. Norbert Seidl, Prof. Dr. Änne-Dörte Latteck, Prof. Dr. Christa Büker

Quality of Aids and Their Provision
Duration: 01/03/2022–30/06/2022 / Prof. Dr. Patrizia Raschper, Prof. Dr. Annette Nauerth

SustAInable Life-cycle of Intelligent Socio-Technical Systems (SAIL)
Duration: 01/08/2022–31/07/2026
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↳ A bird's eye view of HSBI's main building on Bielefeld Campus

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